ORDER

8110.37C

DESIGNATED ENGINEERING REPRESENTATIVE (DER) GUIDANCE HANDBOOK

SEPTEMBER 30, 1998

U.S. DEPARTMENT OF TRANSPORTATION
FEDERAL AVIATION ADMINISTRATION

Distribution: A-W(IR/FS)-3; A-X(CD/FS)-3; A-FAC-0(ALL); AEU-100; A-FFS-7(LTD); FDR-2

Initiated By: AIR-110

*U.S. GPO: 1988-661-448

FOREWORD

This order provides a handbook of guidance, procedures, technical guidelines, and limitations of authority for Designated Engineering Representative (DER). It is to be used by all Aircraft Certification Directorates and Aircraft Certification Offices (ACO's), as an aid in the uniform administration of the DER program. This handbook contains guidance material for the DER and is designed to provide a better understanding of the Federal Aviation Administration (FAA) DER management system for all concerned personnel.

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CHAPTER 1. GENERAL

1. PURPOSE.

This order prescribes the guidance and procedures to be used by the aircraft certification directorates and the aircraft certification offices in administering the Designated Engineering Representative management program.

2. DISTRIBUTION.

This order is distributed to Washington headquarters branch level of the Aircraft Certification Service and Flight Standards Service, to the branch level of the Regional Aircraft Certification Directorates and Regional Flight Standards Divisions, to all Aircraft Certification Offices, to the Brussels Aircraft Certification Division, to all Flight Standards District Offices, and to all Designated Engineering Representatives.

3. CANCELLATION.

Order 8110.37B, Designated Engineering Representatives (DER) Guidance Handbook, dated November 12, 1996, is canceled.

4. EXPLANATION OF MAJOR CHANGES.

Provisions of Notice 8110.63, Oversight of Company or Consultant DER's Delegated Authority and Activity With Respect to His or Her Position Within That Company, were incorporated. Authorization to appoint an applicant, who does not have a permanent legal U.S. residence, as a Designated Engineering Representative (DER) was rescinded. Authorization for DER to find compliance with foreign civil airworthiness authority regulations was added. Authority for a DER to perform any authorized function on foreign registered U.S. certificated aircraft was rescinded. Specific requirements for structural DER's with a delegated function of fatigue analysis was added. DER independence requirements were added. Guidance material information was revised to indicate that the new DER must download the basic DER kit from FedWorld.

5. BACKGROUND.

a. Section 44704 of Title 49 United States Code (49 USC 44704), empowers the Administrator to issue type certificates for aircraft, aircraft engines, and propellers, and to specify regulations as applicable to the type certification function. Section 44702(d) of Title 49 USC authorizes the Administrator to delegate to a qualified private person, or to an employee under the supervision of that person, a matter related to the examination, testing, and inspection necessary to the issuance of such certificates. The delegations are limited in scope in that all requirements, policy, direction, and interpretations must reside with the Administrator.

b. Title 14 of the Code of Federal Regulations (14 CFR) part 183, Representatives of the Administrator, prescribes the requirements for designating private persons to act as representatives of the Administrator in the examining, inspecting, and testing of persons and aircraft for the purpose of issuing airman and aircraft certificates. Subpart B of part 183 empowers the Manager, Aircraft Certification Office, or the manager's designee, to select DER's from qualified persons who apply by a letter accompanied by an FAA Form 8110-14, Statement of Qualifications (DAR - DMIR - DER - DPRE - DME). Designation of a private person as a DER is a privilege granted by the Administrator. It is not the right of every qualified applicant to be granted a DER designation. Section 183.29 defines the privileges for appointments in the following technical fields:

(1) Structural Engineering.
(2) Powerplant Engineering.
(3) Systems and Equipment Engineering.
(4) Radio Engineering.
(5) Engine Engineering.
(6) Propeller Engineering.
(7) Flight Analyst.
(8) Flight Test Pilot.
(9) Acoustical Engineering.

6. DER MANAGEMENT PROGRAM.

The DER management system enables the FAA to utilize highly qualified technical people to perform the examinations, testing, and inspections necessary to determine compliance with the applicable airworthiness standards. DER's will follow the procedures of FAA Order 8110.4, Type Certification Process. DER's offer technical expertise with state-of-art knowledge. FAA specialists understand the framework of critical regulations that allow technology to be applied safely. The DER and the FAA are both responsible to assure the DER management system is properly administered. The FAA will decide when to get directly involved in a project and the nature of that involvement. The DER will be accepting increased involvement as a necessary way of doing business and obtaining certifications. FAA interaction with DER's is highly interdependent, building

on mutual interests the FAA, manufacturers, and operators have in achieving the highest level of safety.

7. **Definitions/Acronyms.** The following terms have the meaning given below when that term is used in this order.

a. **AC** - Advisory Circular.

b. **ACO** - Aircraft Certification Office.

c. **AD** - Airworthiness Directive.

d. **AFM** - Aircraft Flight Manual (means Airplane Flight Manual or Rotorcraft Flight Manual, as applicable).

e. **AFS** - Flight Standards Service.

f. **Applicant** - aircraft owner, aircraft operator, certificated repair station, or person who fills out FAA Form 8110-12, Application For Type Certificate, Production Certificate, or Supplemental Type Certificate or a person who fills out FAA Form 8110-14, Statement of Qualification (DAR-DMIR-DER-DPRE-DME).

g. **Appointing ACO** - The ACO which appoints the DER, issues the appropriate credentials, and is responsible for renewal appointments.

h. **CAA** - Civil Airworthiness Authority.

i. **CAR** - Civil Air Regulation.

j. **CFR** - Code of Federal Regulations.

k. **Compliance Inspection** - Compliance inspections are physical inspections performed by the ACO engineer or the DER, when authorized. This inspection provides an opportunity to review an installation and its relationship to other installations on a product to determine compliance with FAR/CAR requirements which cannot be determined adequately from an evaluation of the technical data.

l. **DAR** - Designated Airworthiness Representative.

m. **DAS** - Designated Alteration Station.

n. **DER** - Designated Engineering Representative.

o. **DER File** - The DER file, maintained at the branch or office level, contains the DER application, appointment letter, renewal letters, DER activities via FAA Form 8110-3, FAA/DER Interaction Tracking Forms, DER Evaluation Forms, and various records of discussion or counseling conducted with the DER.

p. **DMIR** - Designated Manufacturing Inspection Representative.

q. **Executive Level** - A person who holds the company position of president, vice president, chief engineer, owner, part owner, director of engineering, etc.

r. **FAA Advisor** - The FAA Advisor is the engineer/pilot that has the primary responsibilities in the renewal process for the assigned DER. This advisor will also be the FAA Evaluator in that technical specialty. If the DER has delegated authority in more than one discipline, the advisor is responsible for obtaining inputs from the other FAA Evaluators in those disciplines.

s. **FAA Evaluator(s)** - The FAA Evaluator is the engineer/pilot assigned to a DER who has another technical specialty other than that of the advisor. The evaluator(s) is responsible for completing the evaluation form for that specialty and coordinate with the FAA Advisor.

t. **FAR** - Federal Aviation Regulation (Code of Federal Regulations, Title 14).

u. **Field Approval** - Signature approval in Block 3 of FAA Form 337, Major Repair and Alteration (Airframe, Powerplant, Propeller, or Appliance) by a Flight Standards District Office airworthiness inspector signifying that the data identified on the FAA Form 337 complies with applicable airworthiness requirements and is approved for the described application subject to conformity inspection by a person authorized in Title 14 of the Code of Federal Regulations (14 CFR) part 43, Section 43.7.

v. **FSDO** - Flight Standards District Office.

w. **HIRF** - High Intensity Radiated Field.

x. **JAR** - Joint Aviation Requirements.

y. **Key Interactions** - Refer to the definitions in appendix 3, figure 13, for the definitions of the eight key interactions identified.

z. **Key Evaluation Items** - Refer to the definitions in appendix 3, figure 15, for the definitions of the 12 key evaluation items.

aa. **MIDO** - Manufacturing Inspection District Office.

bb. **MRB** - Materials Review Board.

cc. **PMA** - Parts Manufacturer Approval.

dd. **Product** - Aircraft, aircraft engine, or propeller.

ee. **Project ACO** - The geographic ACO with which the DER coordinates when verifying compliance with the regulations on certification projects for products and parts.

ff. **STC** - Supplemental Type Certificate.

gg. **TC** - Type Certificate.

hh. **TIA** - Type Inspection Authorization.

ii. **TSO** - Technical Standard Order.

jj. **VLA** - Very Light Aircraft.

(1) Engineering reports,

(2) Drawings, and

(3) Other data relating to aircraft systems and equipment design not covered by structural or powerplant representatives.

d. **Radio DER's** may prepare and/or approve, within the limits of their appointment, the following items that comply with pertinent regulation(s):

(1) Engineering reports,

(2) Drawings,

(3) Tests, and

(4) Other data relating to the design and operating characteristics of radio equipment being manufactured and/or modified.

e. **Engine DER's** may prepare and/or approve, within the limits of their appointment, the following items that comply with pertinent regulation(s):

(1) Engineering reports,

(2) Drawings, and

(3) Other data relating to durability, materials, and processes employed in engine design, operation, and maintenance.

f. **Propeller DER's** may prepare and/or approve, within the limits of their appointment, the following items that comply with pertinent regulation(s):

(1) Engineering reports,

(2) Drawings, and

(3) Other data relating to propeller blade and hub design, pitch control, propeller governing, and maintenance, provided these items comply with the pertinent regulation(s).

g. **Flight Analyst DER's** may prepare and/or approve, within the limits of their appointment, the following items that comply with pertinent regulation(s):

(1) Aircraft performance flight test data,

(2) Aircraft quantitative operating data, and

(3) Flight characteristics data.

h. **Flight Test Pilot DER's** may conduct and approve, within the limits of their appointment, flight tests of new or modified aircraft.

i. **Acoustical DER's** may witness and approve, within the limits of their appointment:

(1) Noise certification tests conducted in accordance with an FAA approved test plan,

(2) Noise data,

(3) Noise analyses, and

(4) Test results that were measured and evaluated as prescribed in 14 CFR part 36, subparts A through J, or by an equivalent procedure previously approved by the FAA Office of Environment and Energy (AEE-1).

203. SPECIAL DELEGATIONS/AUTHORIZATIONS.

A DER may be appointed to approve technical data not specifically listed in the charts of appendix 2. Each chart has an authorized area of "Special" with delegated functions to cover this contingency. FAA Form 8110-25, Certificate of Authority (DER), or related documentation will list the authorized area of "Special" with the delegated function specifically defined. The following are examples of common "Special" delegations.

a. **Administrative/Management DER's**. A qualified person may be appointed as an administrative coordinator or as a manager of an applicant's certification program. This person will be assigned the authorized designation of Administrative DER or Management DER. These special designations encompass all technical disciplines; therefore, they may not be associated with a particular chart in appendix 2. These designations relieve the FAA from having to do the normal project administration, technical coordination, and guidance usually associated with a certification program.

(1) **Administrative DER**. The Administrative DER, usually a company DER, acts as a focal point for FAA coordination activity including organizing technical DER activity, correspondence, schedules, meetings, conformity inspections, and FAA participation in official tests.

(2) **Management DER**. The Management DER, usually a consultant DER, performs FAA certification project management duties for the FAA. In

this capacity, the DER performs duties similar to the FAA program manager. This includes: organizing the certification program, directing, overseeing, and managing the task of technical assessments and findings of compliance. This DER assures that all technical data required to show compliance is reviewed and approved by the appropriate DER except in those areas reserved to the FAA for approval. This DER must first be appointed under one of the delegations listed in paragraph 202.

b. Major Repairs and Alterations. Specific authorization is required to examine and approve data for alterations and repairs. The DER should be assigned the authorized area of "Special-Major Repairs and/or Alterations," which will be related to the DER's basic delegations. A sample letter authorizing data approval for repairs and alterations is shown in appendix 3, figure 18. The three specific authorizations are:

(1) Special -Major Repairs.

(2) Special- Alterations.

(3) Special-Major Repairs and Alterations.

c. PMA Identicality. Specific authorization is required to examine and make findings of identicality for the purpose of obtaining PMA. Test and computation are authorized within the scope of the DER's delegation (see appendix 2).

d. Special Authorizations. The level of data approval granted to the DER may vary from project to project depending on the complexity of the project. Therefore, the appointing ACO manager or manager's representative may issue a special authorization letter to permit a DER to approve data normally reserved to the FAA. The special authorization letter must be specific in its delegation and limited in its duration, and is valid only at the ACO which issued the letter. Verbal authorization from the ACO is permitted in some cases (e.g., witnessing tests), provided it is documented on the subsequent FAA Form 8110-3.

204. LIMITATIONS.

a. General. A qualified person may be appointed to act as more than one type of DER listed in part 183. The appointee must be personally qualified to determine compliance with the Federal Aviation Regulations in all authorized areas and delegated functions assigned from those listed in appendix 2.

(1) Delegated Functions. A delegated function applies to the technical areas involved in determining compliance with applicable airworthiness regulations.

(2) Authorized Areas. An authorized area applies to the specific portion or system of the aircraft or the type of engine or propeller or specialized area to which a delegated function is applicable.

(3) DER Authorization. The delegated functions and authorized areas for each DER will be established from the appendix 2 charts prior to the time of the applicant's original appointment, and again during review at the DER's authority change or renewal date. These will be listed on FAA Form 8110-25, the letter of appointment, or on any letter(s) of renewal or authority expansion/deletion. Any other limitations appropriate to the appointment, such as certain CAR or other regulation(s), are also listed on the form. The use of "recommend approval", can only be used for those delegated functions authorized on the FAA Form 8110-25. The scope of the designation, and any limitation considered necessary at the time of appointment, will be clearly indicated on FAA Form 8110-25 or other related documentation.

(4) Predecessor Regulations, Harmonized Regulations, or Other Acceptable Airworthiness Requirements. The delegation of a specific Federal Aviation Regulation also includes the delegation for predecessor and other applicable regulations:

(a) Example of Predecessor Regulations. The delegation of 14 CFR part 25 includes Civil Air Regulation part 4b.

(b) Example of Harmonized and Predecessor Regulations. The delegation of 14 CFR part 23 includes Civil Air Regulation part 3 or JAR 23.

(c) Example of Acceptable Airworthiness Requirements. The delegation of JAR/VLA and the airworthiness standards accepted for Primary Category airplanes.

b. Limited Appointments. A DER may be appointed for, or limited to, specific types of work. For example, a systems and equipment DER could be limited to handling approval of alterations to specific types of systems such as hydraulic, pressurization, etc., on only one airplane model; or a flight test pilot DER could be limited to conducting flight tests on fixed wing aircraft of a specified maximum gross weight. Caution should be

exercised in making delegations so narrowly limited that they become burdensome to the FAA.

c. Items Requiring FAA Approval. The FAA retains authority and responsibility for examining and approving certain items, e.g., the certification basis, any special conditions, exemptions, equivalent safety findings, type inspection authorizations, and the issuance of TC's and STC's. This limits the data that the DER can approve. Appendix 1, Limitations on DER Functions, lists those areas which would more than likely be reserved for FAA approval but could be delegated to a DER.

(1) Interpretation of Federal Aviation Regulations. Whenever any question arises regarding interpretation of a Federal Aviation Regulation or the use of new or unconventional materials and processes, the DER shall consult with FAA ACO personnel. The DER shall not make an interpretation of a regulation. In general, the DER should be guided by existing polices, procedures, specifications, processes, standards, etc. The DER must consult with the ACO prior to departure from existing procedures in making findings of compliance.

(2) Test Plans. A DER cannot approve test plans unless specifically delegated to do so by the ACO on a case-by-case basis. However, the DER should normally recommend approval in the submittal to the ACO. Acoustical DER's may only recommend approval of test plans and final noise certification compliance reports.

(3) AFM Data. Specific authorization is required to examine and approve related or special data on reports such as loading schedules or devices, weight and balance reports, equipment lists, and/or certain airplane flight manual revisions, etc.

(4) Determination of Major/Minor Modifications. The decision as to whether a change to a type design is major or minor, as defined in 14 CFR part 21, section, 21.93, should be reviewed with the ACO if the decision is controversial or if the DER needs guidance. Major and minor design changes to TSO articles are defined in 14 CFR, part 21, section 21.611.

(5) Impact of Major Modifications on Certification Programs. The extent and effect of a major modification shall be discussed with the ACO to determine if original design requirements (airworthiness regulations, basic load criteria, and test results) still apply, if the original application for type certificate will be affected, and if additional analyses, flight tests, ground tests, or ground inspections are necessary.

(6) Airworthiness Directives. Prior to the establishment of an unsafe condition by the ACO, a DER may approve a service bulletin. After establishment of an unsafe condition by the ACO, a service bulletin related to the unsafe condition and alternate means of compliance must be approved by the ACO.

(7) PMA/TSO Approvals. The DER does not have authority to make PMA or TSO approvals. These approvals are reserved for the FAA. However, a DER may contribute towards PMA/TSO authorization approvals, within the scope of the authorization approved by the project ACO, by making findings of identicality and by making findings relative to airworthiness requirements by test and computation. The DER has the responsibility to work within the limitations and designation of his or her delegated authority. The DER must be specifically authorized to make a finding of identicality by the DER's appointing ACO.

(8) Software Plans. Normally, the plan for software aspects of certification and accomplishment summary should be reserved for approval by the ACO.

CHAPTER 3. QUALIFICATION REQUIREMENTS

300. GENERAL REQUIREMENTS.

An applicant for a DER appointment must have a legal permanent residence in the United States, and must have met the following requirements:

a. For a company DER, must be employed by and recommended by an engineering consulting agency, a manufacturer, an air carrier, or a certificated repair station, and have a position in the employer's organization free from any conflicting restraints but with sufficient authority and independence to enable the applicant to administer the pertinent regulation(s) effectively. The DER's company assigned duties should allow adequate time to perform his/her duties as a representative of the administrator with no coercion from the company.

b. For a consultant DER, the applicant must be self-employed for purposes of the designation. The applicant may also be otherwise employed, and not necessarily in an aviation related occupation;

c. Working Knowledge of Regulations. The applicant must have a thorough working knowledge of the pertinent regulations;

d. Responsible Position. The applicant must have been in a responsible position in connection with the type of work for which he or she is to be designated, be cognizant of related technical requirements and problems related to civil aircraft approval, or otherwise demonstrated suitability for this designation.

e. Character. The applicant must possess integrity, sound judgment, and a cooperative attitude.

f. Command of English Language. The applicant must have a good command of the English language, both oral and written.

g. Engineering Experience. Have at least eight years of progressively responsible aeronautical, mechanical, civil, electrical, or general engineering experience, or satisfactory combinations thereof as appropriate to the designation being sought.

(1) Engineering Degree. If the applicant has an engineering degree, or equivalent, granted by a college of recognized standing, then each year of successfully completed course work may be substituted, year for year, up to 4 years maximum credit, to meet the 8 year experience requirement.

(2) No Degree. An applicant who has not earned an engineering degree may substitute each 40 semester credit hours of successfully completed course work in an engineering, or related, curriculum for one year of experience, up to 4 years maximum credit, to meet the 8 year experience requirement.

(3) Time Waiver. In rare instances, any portion of the 4 years experience beyond the engineering degree may be waived by the appointing ACO Manager provided it is based upon sound judgment and is documented accordingly. An example of this would be the applicant seeking DER flammability delegation. Certain aspects of this authority are very repetitive and do not vary significantly from project to project.

h. Experience Working With the FAA. The applicant must have significant experience in a direct working relationship with the ACO. The applicant's experience must be related to the processing of engineering data pertaining to FAA approval of the type for which the designee applicant is seeking appointment. The applicant's range of activities in obtaining FAA approvals must have been adequate to enable the ACO to determine that the applicant is cognizant of the technical and procedural requirements involved in obtaining such approvals, and that the applicant is well versed in all pertinent regulation(s). If the applicant's qualifications are found to be acceptable, except for the requirement of significant experience in a direct working relationship with the ACO, the applicant may be identified as a DER candidate.

(1) Recent Activity. The experience in direct contact with the ACO, which may be part of the 8 year requirement, should have occurred during the last 3 years prior to the application for DER appointment.

(2) Knowledge of Requirements. The applicant's experience in obtaining ACO approvals must have been such as to enable the ACO to determine that the applicant is cognizant of the technical requirements that the ACO imposes for obtaining such approvals and is well versed in all pertinent regulations.

(3) Technical competence. The applicant's experience must also demonstrate to the FAA that the applicant is technically competent to successfully solve

engineering problems within the scope of the designation requested. Enough variety of work must be processed during the period the applicant worked with the FAA for the FAA to be able to evaluate the applicant's efforts in all areas for which approval is being sought.

301. SPECIFIC REQUIREMENTS.

a. **Administrative DER's** must meet the qualification requirements specified in paragraph 300 plus have significant experience in direct contact with the ACO for which the applicant has been actively engaged in processing ACO approvals. This experience must enable the ACO to determine that the applicant is cognizant of the overall certification process, and the administrative problems encountered in obtaining approvals. When the ACO has documented that an equivalent finding has been made that demonstrates the applicant meets the intent of paragraphs 300 g and h, the ACO manager may, at his or her discretion, appoint an applicant who does not meet all of the requirements of paragraph 300 as an Administrative DER.

b. **Management DER's** must meet the qualification requirements specified in paragraph 300 plus have significant experience in direct contact with the ACO for which the applicant has been actively engaged in processing FAA approvals, and must have demonstrated his/her technical DER knowledge during a variety of FAA projects. This experience must enable the FAA to determine that the applicant is cognizant of the overall certification process, has experience working with other technical disciplines, and is cognizant of the management problems encountered in obtaining approvals. Management DER's must be first appointed to one of the delegations listed in paragraph 202.

c. **Flight test pilot DER's** must possess the following qualifications in addition to the requirements listed in paragraph 300:

(1) **Hold a commercial pilot's certificate** with an instrument rating, and be qualified in aircraft of the same category and class and similar in design to that in which the applicant will be conducting tests.

(2) **Have logged a minimum of 2,000 pilot-in-command (PIC) flying hours (1,000 hours for helicopters)** of which at least 100 hours have been logged within the past 12 months.

(3) **Have logged a minimum of 100 hours of appropriate experimental flight testing experience** in the same certification category and in a similar type of aircraft for which the DER appointment is requested.

NOTE: The requirements of (2) and (3) are initial requirements, not annual requirements.

d. **DER's with a delegation of Software Approval**, must possess the following capabilities in addition to the requirements of paragraph 300:

(1) **Comprehensive familiarity** with, and understanding of, RTCA Document DO-178, Software Considerations in Airborne Systems and Equipment Certification.

(2) **Familiarity** with the systems safety assessment process, specifically, those portions which establish the software criticality levels.

(3) **A demonstrated knowledge** of the rationale for, and the significance of, each stage in the software development process, as well as its supporting standards, procedures, and documentation. The DER should be able to identify the critical aspects and contents of each of the data items mentioned in DO-178.

(4) **Experience** gained from participation in some technically responsible capacity over a complete software development program life cycle. This qualification may be satisfied by an aggregate of different software development programs.

(5) **Experience** interacting with all phases of software development and testing processes addressed by DO-178, including utilization of the associated configuration and quality assurance processes. This experience should include significant responsible involvement in several of those phases. When assessing an applicant's capabilities for making a knowledgeable finding of compliance, experience obtained in the requirements development or testing phases may, for example, be weighted more heavily than that obtained in the detail design or coding phases.

(6) **Fluency** in at least one high-level and one assembly-level programming language and familiarity with typical support software used in a software development process. Familiarity with typical software tools available to facilitate the development, documentation, and consistency-checking processes is highly desirable.

(7) **Demonstrated knowledge** of the sources of software anomalies, the relative merits of the types of

testing procedures which are available to protect against them, and the characteristics of a thorough test program.

(8) Familiarity with the aspects of computing peculiar to real-time avionics systems, such as the use of interrupts, multi-tasking, software reentrancy, etc. This should include an appreciation of the types of analysis and testing necessary to ensure the integrity of these mechanisms.

(9) An understanding of the techniques which may be employed to reduce software levels, such as system architecture, dissimilar software, and partitioning. This should include the ability to assess the adequacy of a proposed technique relative to the system integrity requirement.

(10) Knowledge of hardware characteristics such as input/output schemes, memory organization and multi-port access, communication-bus protocols, and processor architecture, all of which have an impact on the software interface and the potential for the creation of anomalies.

(11) The appointing ACO will determine what limitations, if any, will be placed on the DER's software approval level. These limitations may be expressed in the terms used in DO-178 and defined on the DER's FAA Form 8110-25, Certificate of Authority (DER), or related documentation.

(12) A minimum level of successful experience is required by the FAA before a DER is allowed to approve certain software. The experience of the DER to be considered in relation to software level is as follows:

(a) Level A Software. A DER should have at least 1 year of successful experience reviewing Level A software data submittals before being designated to approve any Level A data.

(b) Level B Software. A DER should have at least 1 year of successful experience reviewing either Level A, or Level B software data submittals before being designated to approve any Level B data.

(c) Level C Software. A DER should have at least one year of successful experience reviewing either Level A, Level B, or Level C software data submittals before being designated to approve any Level C data.

(d) Level D Software. A DER may be designated to approve Level D data if the qualification criteria for appointment as a software DER has been met.

e. Structural DER's with a delegated function of Damage Tolerance Evaluation, in conjunction with the education and experience requirements of paragraphs 300g and h should possess:

(1) Education -

(a) A degree in Engineering Mechanics, or

(b) A degree in Aerospace/Aeronautical Engineering, or

(c) A degree in Mechanical Engineering, or

(d) A degree in Civil Engineering.

(e) In addition to one of the above, a course in fracture mechanics is desirable, if not taken during the degree program.

(2) Experience - The equivalent of 2 full years experience in damage tolerance analysis. This experience shall be within the last 10 years prior to appointment.

f. Structural DER's with a delegated function of Fatigue Analysis, in conjunction with the education and experience requirements of paragraphs 300g and h should possess:

(1) Education -

(a) A degree in Engineering Mechanics, or

(b) A degree in Aerospace/Aeronautical Engineering, or

(c) A degree in Mechanical Engineering, or

(d) A degree in Civil Engineering.

(e) In addition to one of the above, a course in fatigue analysis is desirable, if not taken during the degree program.

(2) Experience - The equivalent of 2 full years experience in fatigue analysis. This experience shall be within the last 10 years prior to appointment.

302. STATE LICENSING REQUIREMENTS.

a. FAA Requirements. The FAA does not require the DER to meet state requirements for registered professional engineers. The designee function complies with Federal Aviation Regulations and the United States Code. Section 44702(d) of Title 49 United States Code (49 USC 44702(d) authorizes the Administrator to delegate to a qualified private person, a matter related to the examination, testing, and inspection necessary to the issuance of certain certificates.

b. Licensing Laws. A DER designation does not relieve designees from requirements imposed by state licensing laws. It is within the regulatory power of a state to restrict the right to engage in the practice of engineering within that state to persons who satisfactorily qualify under its laws, e.g., registered professional engineers. State law may require a consultant DER to be a registered professional engineer when selling engineering services for a fee. Each DER applicant should determine whether the state or states in which the DER applicant intends to offer engineering services require registration as a professional engineer.

CHAPTER 4. APPOINTMENT

400. APPLICATION.

a. FAA Form 8110-14. Application for appointment as a DER must be initiated by the applicant or the applicant's employer (in the case of a company DER) by submitting an FAA Form 8110-14, Statement of Qualifications (DAR - DMIR - DER - DPRE - DME), along with a cover letter to the manager of the ACO responsible for the geographic area in which the applicant's place of business is located. An example of FAA Form 8110-14 is shown in appendix 3, figures 1 and 2.

b. Cover Letter. The application cover letter must indicate which delegated functions and authorized areas are being requested, as shown in appendix 2. It should also include a detailed resume highlighting any FAA certification compliance activity and specifying previous technical work done, including the level of responsibility.

c. The application will be evaluated by the appropriate offices in the ACO , including a personal interview.

d. Appointment outside the United States. The FAA will not consider appointment of an individual, who does not have a legal permanent residence in the United States as a DER.

401. SELECTION.

a. Certificate of Authority. If the ACO determines that there is a need for a DER, that the ACO has the ability to manage the DER, and the applicant meets the qualifications listed in chapter 3, a designation will be issued to the applicant by the manager of the ACO or the manager's representative. Such designation is represented by FAA Form 8110-25, Certificate of Authority (DER),(see appendix 3, figure 3), and by FAA Form 8000-5, Certificate of Designation. (See appendix 3, figure 4.) The FAA Form 8110-25 serves as the DER's authorization to act as a representative of the Administrator, while FAA Form 8000-5 serves as a recognition document for the DER. In order to eliminate the necessity for reissuing the FAA Form 8000-5 whenever there is a change in the type of designation, only the title "Designated Engineering Representative" need appear on this form. The specific classifications, specialties, and limitations should be shown on FAA Form 8110-25 or related document and, on the letter of appointment/renewal which is part of the FAA Form 8110-25. The DER appointment letter will identify the DER's advisor. A copy of the appointment letter for each Consultant DER must be sent to the Mike Monroney Aeronautical Center, Engineering and Manufacturing Branch, AFS-610, to provide the information needed for AC 183.29-1, Designated Engineering Representatives.

(1) Administrative. When a DER is appointed as the coordinator or check-point for other DER's work, the DER should be assigned the authorized area of "Special-Administrative" with the delegated function of "DER Coordination."

(2) Management. When a DER is appointed to perform FAA certification project management duties for the FAA, the DER should be assigned the authorized area of "Special-Management" with the delegated function of "DER FAA Certification Management."

b. DER File. The ACO will establish and maintain a DER file in accordance with paragraph 702 upon receipt of the DER application.

c. DER Designation Number. The designation number assigned to the DER will consist of the certification office two or three letter-prefix followed by a dash and the next appropriate number.

d. DER Candidates. If the applicant meets the requirements listed in paragraph 300, except for the requirements of having significant experience in a direct working contact with the FAA, the applicant may be identified as a DER candidate. The ACO manager, or the manager's representative, will issue a letter indicating acceptance of the applicant's qualifications and instructing the applicant on the procedures necessary to complete the requirement for direct experience with the ACO. This letter will identify the DER candidate's advisor.

e. Conflict of Interest. The ACO's are discouraged from appointing DER's and candidates who are in the executive level category within a company, especially where someone at a non-executive level within that company may have the abilities required to fulfill that DER's candidacy. Prudence with respect to the number of new executive level DER's should be considered, since the DER renewal process requires an additional workload for both the FAA Evaluator and the DER. The risk of conflict of interest increases as a company DER takes on

additional responsibilities and rises to an "executive" level within the company, where the primary job duties are schedule-driven and devoted to the output of the company's whole saleable products. Additionally,. a "consultant" DER who forms a company that applies for certificates and other approvals goes beyond a purely consulting function. Additional surveillance of these DER's is required.

f. Acoustical DER appointments require two levels of approval. First, the approval of the ACO manager, then the approval of the Director, Office of Environment and Energy, AEE-1, or FAA personnel to whom they have delegated such approval authority. However, technical data approvals and other activities of the acoustical DER will be monitored by the cognizant ACO.

g. FAA Form 1770-7. When a new DER or a candidate is appointed, the appointing ACO will submit one copy of FAA Form 1770-7, DMIR/DER MAILING ACTION, to the Corporate Information Division, ABC-100. The required information should be submitted on the FAA Form 1770-7 (appendix 3, figure 5) in the following manner:

(1) In the upper left-hand corner (labeled "ORGANIZATION"), place the routing symbol of the appointing organization.

(2) In the upper middle section, mark the block labeled "ADD".

(3) In the upper right-hand corner (labeled "DATE"), enter the date of the request.

(4) If the DER is self-employed, the section labeled "NEW" should be filled out as follows:

(a) Line 1: FDR-2.

(b) Line 2: The DER's name (two initials and last name only) and DER number (or the note "DER Candidate" as appropriate).

(c) Line 3: Leave blank.

(d) Line 4: Street address.

(e) Line 5: City, State, and Zip Code.

(f) Leave the section labeled "OLD", blank.

(5) If the DER is employed by a company, the section labeled "NEW" should be filled out as follows:

(a) Line 1: FDR-2.

(b) Line 2: The legal company name.

(c) Line 3: The DER's name (two initials and last name only) and DER number (or the note "DER Candidate" as appropriate).

(d) Line 4: Street address (company mail stop optional).

(e) Line 5: City, State, and Zip Code.

(f) Leave the section labeled "OLD" blank.

402. ORIENTATION.

The appointing ACO manager or representative is responsible for the initial orientation of a newly appointed DER, or DER candidate, in conjunction with the FAA personnel with whom the DER will be working. For a DER appointed in more than one discipline, appropriate orientation will be given in each area. The initial orientation should include the following items:

a. Aircraft Certification Directorate Structure. Review organizational structure of the aircraft certification directorate system.

b. ACO Structure. Review ACO organizational structure.

c. Personnel. Introduce the DER to ACO personnel, if orientation is given in the ACO.

d. Approval Authority. Review in detail what the DER can approve and what may only be recommended for approval.

e. DER Guidance Handbook. Review in detail, Order 8110.37, Designated Engineering Representatives (DER) Guidance Handbook.

f. FAA Form 8110-3. Explain how to fill out FAA Form 8110-3 (See appendix 3, figure 6 and paragraph 501.) Advise the DER that a computer generated FAA Form 8110-3 is acceptable.

g. Use of Authority. Advise the DER to exercise the full extent of delegated authority. If the DER does not exercise the delegated authority, the DER must explain why on the FAA Form 8110-3, when submitted.

h. Test Plan Approval. Emphasize that a DER cannot approve test plans but should recommend approval in the submittal to the ACO. The ACO may delegate test plan approval on a case-by-case basis. The DER must have specific approval from the FAA prior to witnessing a test as the FAA representative.

i. Operating Boundaries. Explain procedures for operating across ACO boundaries.

j. Appointment, Renewal, and Expansion/Deletion Procedures. Explain appointment, renewal, and expansion/deletion procedures. A sample renewal and expansion of designation letter is shown in appendix 3, figure 9.

k. Relocation Procedures. Explain steps that must be taken if the DER moves to an area for which another appointing ACO is responsible.

l. Meeting Minutes. Review minutes of recently held DER workshops/conferences and provide copies, as appropriate.

m. Other Pertinent Information. Review other pertinent information, i.e., ACO STC Application Guide; material burn requirements; applicable FAA AC's, notices, and orders; service difficulty reports, major and minor changes; etc. Provide the DER with copies of information of particular interest to the appointment specialty.

n. Questions Concerning Approval Authority. Emphasize that if the DER has any doubts about the approval authority or questions on any subject, the DER should contact the appropriate manager or representative at the ACO.

o. Company Influence. Advise all company DER's or consultant DER's who act on behalf of a company to contact the appointing ACO immediately if any pressure is put on the DER by their company's management to approve data that the DER believes should not be approved. If the quality or timeliness of submittals is deficient, DER independence should be investigated.

p. Administrative Responsibilities. Familiarize the DER with all necessary administrative procedures, practices, and official records, and provide the DER with all pertinent forms and instructions.

q. Training. Advise the DER that the FAA expects the DER to participate in periodic seminars or training furnished by the FAA as an aid in maintaining currency in FAA policy and procedures. The DER will be notified of seminars, when appropriate. A newly appointed DER must attend a DER Standardization Seminar within 1 year after initial appointment or within the year just prior to appointment.

r. Compliance with Policy. Explain that a DER is expected to use and implement FAA policy and guidance material (AC's, notices, orders, etc.) in addition to the regulations.

s. Executive Level DER's. Emphasize what additional monitoring, supervision, and surveillance may be required as a result of their position and changes in their position with a company, including emphasis on possible additional documentation requirements from the DER's themselves.

t. DER Candidate Procedures. For DER Candidates, explain the procedures of paragraph 502 for operating as a DER Candidate.

CHAPTER 5 ADMINISTRATION

500. GENERAL

a. Training. Two types of FAA training seminars are available. DER's are encouraged to attend. The DER seminar schedule is available on the FedWorld Bulletin Board.

(1) Standardization Seminar. The DER Standardization Seminar hosted by AFS-610 with the support of the local ACO's is a 2-day indoctrination course tailored for newly appointed DER's and applicants with little experience. It consists of an overview of the FAA, DER's responsibilities, and certification activities a DER may encounter. A newly appointed DER must attend an FAA DER Standardization Seminar within 1 year after initial appointment or within the year just prior to appointment.

(2) Recurrent Seminar. DER Recurrent Seminars consist of general information and technical break-out sessions tailored by the host ACO to present items they feel are of interest. ACO's also invite inputs from industry and DER's for presentation at DER Recurrent Seminars. Technical Break-Out sessions will be grouped by technical specialty, i.e. Powerplant, Systems and Equipment, etc.

b. DER Independence. A DER must have adequate time to perform his or her assigned duties and to adequately represent the administrator.

c. DER Indemnification Status. A DER, while acting pursuant to a DER appointment, is a representative of the Administrator for specified functions. A DER is not an employee of the FAA, nor of the United States of America, and is not federally protected for the work performed or the decisions made as a DER. As private individuals, DER's are subject to general tort law. The company DER should consult their employer for company policy regarding indemnification. The FAA cannot shelter or protect the DER from the consequences of the DER's findings.

d. Good Practices The DER should have a general knowledge of the overall DER system and FAA certification procedures so that the DER and FAA ACO can work together as a team. A DER, while acting for the FAA, is expected to be guided by "good practice" principles in exercising the duties of a DER. "Good practice" is developed through experience and know-how over the years, and carries with it a high degree of confidence. Good practice exemplifies what has been shown to be reliable and satisfactory. Methods or procedures inconsistent with, or departing from, good practice become questionable practices and should be brought to the attention of the DER. The DER will then be monitored for compliance with good practice. Further deviations could be considered misconduct and grounds for termination.

e. Changes. If the FAA Advisor changes, the DER will be notified, in writing, of the change. All DER's must notify their appointing ACO of any change of status, such as a change in base of operation or leaving the employ of the employer who requested the DER appointment. Notification of change of status to the appointing ACO will ensure that records are kept current and there is a proper flow of correspondence. A company DER is no longer a DER upon leaving the employ of the employer who requested the DER appointment unless the DER also holds a separate appointment as a consultant DER.

f. Change in Residence.

(1) Consultant DER. When a DER changes residence to another ACO's geographical area, the DER must re-apply to the new ACO and return the FAA Forms 8000-5 and 8110-25 to the issuing ACO. The application will refer to the DER's previous appointment. The DER should notify the previous appointing ACO so that the ACO can cancel their appointment and transfer any records to the new ACO. If the designee is acceptable to the new ACO, new FAA Forms 8000-5 and 8110-25 will be issued under a new number in accordance with the new certification office's numerical sequence.

(2) Company DER. When the employer moves to another ACO's geographical area, the company must re-apply to the new ACO and return the FAA Forms 8000-5 and 8110-25 to the issuing ACO. The application will refer to the DER's previous appointment. If the designee is acceptable to the new ACO, new FAA Forms 8000-5 and 8110-25 will be issued under a new number in accordance with the new certification office numerical sequence. If the employer moves the DER to a division which is located outside of the geographic area of responsibility of the appointing ACO, the two ACO's will determine which ACO will manage the DER. Normally, the project ACO will manage the DER.

g. Operating outside ACO area

(1) A company DER may function in any geographic area in which the company conducts business.

(2) A consultant DER may function in any geographic area. The DER must contact the ACO responsible for the project and outline plans for submittal of the original FAA Form 8110-3 with related technical data. When a DER is acting outside the appointing ACO's geographical area, the DER must also submit copies of completed FAA Forms 8110-3 to the appointing ACO to document the DER's activities. Failure to document activities could result in cancellation of the DER's appointment

h. DER Responsibility when using other engineers. The DER may use as many experienced engineers as needed to completely evaluate engineering technical data; however, the DER accepts the responsibility for approving the technical data when signing the FAA Form 8110-3. A DER may decline to approve any or all portions of the technical data, and may forward such data to the FAA for approval. In such instances, the DER must specify reasons for not approving the technical data. A DER should communicate early and often with the FAA counterpart.

i. Use of DOT/FAA Logos. The FAA does not authorize any DER to infer that he or she is a FAA employee or to use the DOT or the FAA logo on things such as: business cards, letterheads, facsimile covers, document covers, or any other business forms.

j. Use of DER Numbers. DER's may not use their DER identification number when signing company or personal reports, drawings, service documents, or letters. This ensures that the DER's signature on such documents does not constitute FAA approval.

501. FAA Form 8110-3, STATEMENT OF COMPLIANCE WITH THE FEDERAL AVIATION REGULATIONS.

a. Use of Form. The DER's only means of approving technical data is through the completion of FAA Form 8110-3.

(1) Date. The date entered in the date box in the upper right corner of the form is the date the DER made the finding that the listed data complied with the applicable requirements.

(2) Data List. In the "List of Data" block, the DER must indicate exactly the extent of the approval. The DER must reference all data covered by the approval: drawing numbers with change letters, report numbers with revision levels, and dates, etc.

(a) Unapproved Data. Indicate any data that the DER cannot or chooses not to approve by a separate listing with the notation: "FAA APPROVAL REQUIRED." If such listing of unapproved data is very voluminous, then a statement clearly indicating the extent of approval or non-approval is sufficient, e.g., "Structural Aspects Approved Only -- No Approval of Electrical Data" or similar statements.

(b) Recommend Approval Data. The use of "recommend approval" can only be used on the FAA Form 8110-3 for those delegated functions identified on the DER's FAA Form 8110-25 or related document. When a DER has the authority to "approve" but only "recommends approval," the DER must explain, in writing, why the data was not approved.

(3) Purpose of Data. If the data approval is in support of a major alteration or major repair, the serial number of the aircraft should be included in the "purpose of data" block.

(4) Applicable Requirements. In the "APPLICABLE REQUIREMENTS" block of FAA Form 8110-3, the DER shall list all applicable regulations and identify by paragraph and subparagraph. If the list is too long to be included on FAA Form 8110-3, additional sheets or an attachment of the certification basis may be included.

(a) Compliance Basis. It must be clear from the list the exact regulation(s) paragraphs, subparagraphs, or other appropriate airworthiness requirements with which the data comply. Merely indicating "structural regulations" or other generalizations is insufficient.

(b) Compliance to other requirements. When non-Federal Aviation Regulations (but FAA adopted or accepted) requirements are used, reference to the appropriate governing regulations should be listed; (See sample FAA Form 8110-3 in appendix 3, figure 12.)

(5) Certification. The DER's signature, typed or printed name and identification number in the "Certification" block on of FAA Form 8110-3 constitutes the DER's approval of the technical data. The use of

"recommend approval" can only be used on the FAA Form 8110-3 for those delegated functions identified on the DER's FAA Form 8110-25 or related document.

b. Distribution of FAA Form 8110-3

(1) Certification Activities. The DER will send all original FAA Forms 8110-3 to the project ACO except for data approvals in support of a major repair/alteration. The DER should also send copies of all forms to the appointing ACO, if different from the project ACO.

Note: There may be local working agreements defining specific requirements for submitting FAA Form 8110-3 that are acceptable to the project ACO.

(2) Major Repair/Alterations. The DER will submit a copy of the original FAA Form(s) 8110-3 in support of a major repair/alteration to the owner/operator or repair station. Sample FAA Forms 8110-3 in support of a major repair/alteration are shown in appendix 3, figures 10 and 11. For major repair/alterations, the amendment levels for each "Applicable Requirement" are those of the original TC product, unless otherwise indicated. The original FAA Form 8110-3 will be sent to the appointing ACO or the project ACO as applicable. The transmittal of this FAA Form 8110-3 should contain a reference to the owner/operator or repair station involved and where the airplane is located.

(3) Requests for FAA Form 8110-3. When requested, the DER should provide a copy of the FAA Form 8110-3 to the operator, client, repair station, or aviation safety inspector, in a timely manner, to allow verification of any approval for which the DER has assumed responsibility. Requests for copies from other persons for copies should be referred to the project ACO. If requested, a list of the DER's FAA Form 8110-25 or related document limitations may be attached to the copy of the FAA Form 8110-3.

(4) Foreign CAA. The ACO may authorize a DER to make compliance findings to specific foreign regulations. (Reference paragraph 609.a.) The DER will provide the original FAA Form 8110-3 and substantiating data to the project ACO for review and concurrence. The project ACO will transmit FAA approval to the foreign CAA.

c. Maintaining File. The applicant is responsible for maintaining a file containing copies of all FAA Forms 8110-3 submitted to the FAA and any associated data.

d. Omissions and Errors. Careful preparation and use of FAA Form 8110-3 is important. Omissions and errors in approvals can cause delays in certification programs. Some of the more common omissions and errors are:

(1) Failure to sign form;

(2) Failure to include revision levels or dates with the drawing numbers, reports, etc., listed;

(3) Failure to include drawings or drawing lists on FAA Form 8110-3 as a listing of the drawings approved;

(4) Failure to specify those portions of the data approved, and those portions of the data that the FAA must evaluate;

(5) Failure to check the "recommend" or "approve" box;

(6) Failure to submit the original FAA Form 8110-3 to the project ACO;

(7) Failure to reference specific REGULATION(S) sections in the "Applicable Requirements" block;

(8) Failure to state, in detail, the reasons for changes to the drawings, or projects they are related to, in the "Purpose of Data" space; and

(9) Failure to approve data only within the DER's delegated functions and authorized areas.

(10) Failure to properly identify the make of the aircraft as it relates to the existing TC holder; i.e. for restricted category aircraft, the DER should not list the original manufacturer's name.

502. DER CANDIDATE PROCEDURES.

Procedures which allow the DER candidate to obtain direct experience with the FAA are described in the following subparagraphs. Other procedures may be adopted or tailored to the needs of the ACO or the applicant.

a. Forms. The DER candidate may use the FAA Form 8110-3, Statement of Compliance with the Federal Aviation Regulations, or the DER Candidate

form shown in appendix 3, figure 7. This form may not be stocked by the local ACO. It can be copied and enlarged to standard size. It is recommended that colored paper, other than white, be used to differentiate between this form and the FAA Form 8110-3. One of the following procedures may be used:

(1) The DER candidate completes and submits the DER Candidate Form (see appendix 3, figure 7) and accompanying data directly to the ACO for their review and approval.

(2) The DER candidate completes and submits the DER Candidate Form (see appendix 3, figure 7) and accompanying data to a DER having approval authority. Under this procedure, both the DER and the ACO will audit the candidate's progress during the candidacy period. The DER reviews and, if all compliance items are satisfactorily addressed, approves the candidate's work on an FAA Form 8110-3 and submits both forms and the accompanying data to the ACO.

(3) The DER candidate prepares the FAA Form 8110-3 and enters the following note in the title box of the form: "The above data has been reviewed by DER candidate." followed by the printed name and written signature of the candidate (See sample shown in appendix 3, figure 8.) The form and data are submitted to an authorized DER who, when satisfied with the data submittal, approves the submittal by checking the "Approve these data" block, signing in the signature block of the FAA Form 8110-3, and submitting the form and accompanying data to the ACO.

b. Responsibility. The DER candidate submittals should be accomplished on actual certification projects. These submittals should be diverse and comprehensive enough for the ACO to determine that the candidate is technically competent to resolve compliance findings within the scope of the designation requested. When the ACO considers the DER candidate is fully qualified, the "candidate" term is dropped, the DER is appointed and the appropriate certificates issued.

503. Administrative DER's.
An Administrative DER, usually a company DER, will perform the following functions:

a. Focal Point. Be a focal point of contact and coordination for FAA certification activities.

b. Data Submittals. Assure that all data submitted are properly organized, identified, coordinated, and if appropriate, approved by an appropriately rated technical DER.

c. Timeliness. Assure that all data are forwarded to the FAA as agreed to in the certification plan to allow FAA review prior to conformity, testing, TIA issuance, etc.

d. Verification of FAA Form 8110-3 Entries. Ensure that the DER's FAA Forms 8110-3 are correctly completed (including the listing of the applicable regulations and appropriate signatures) and when discrepancies are found, return the data to its originator for evaluation and for correction.

e. Status Reports. Provide the FAA with regular status reports on all open projects, including: schedules, conformity requirements, upcoming tests (Company or FAA), technical problems/issues, etc., and inform the FAA, as soon as possible, of any project or priority changes which may impact the certification effort.

f. Certification Plan/Compliance Checklist. Establish a Certification Plan/Compliance Checklist early in the program, coordinate it with the technical DER's, update it periodically, and submit it to the FAA for approval.

g. Service Information. Support and coordinate FAA's requests for information on accidents and service difficulties with the appropriate disciplines, and provide follow-up information.

504. MANAGEMENT DER'S.
A Management DER, usually a consultant DER, will perform the following functions:

a. Project Management. Perform FAA certification project management duties for the FAA. The Management DER may use other DER's to accomplish the Federal Aviation Regulation type design compliance reviews and to make the specific technical findings. The Management DER must assure that properly authorized, competent, and reliable DER's are accomplishing the certification compliance review work.

b. Certification Plan. Assure that a Certification Plan (if appropriate) is formulated early in the program. This plan will show all necessary steps and milestones for the certification project arranged in their proper and logical order. The plan will be coordinated with the applicant and the FAA Program Manager.

c. Special Conditions, Exemptions, Equivalent Safety. Advise the FAA of any design features which might require special conditions, exemptions, equivalent safety findings, or any unsafe features or characteristics, etc.

d. FAA Form 8110-3. Determine that all necessary findings of compliance with applicable regulations have been accomplished by the technical designees involved. The Management DER must provide evidence to the FAA, by a method agreeable to the FAA, that he or she has verified that the data submitted have been reviewed by all the appropriate specialist DER's, and have been found acceptable as identified on their individual FAA Form 8110-3.

e. Coordination. When requested, prepare the minutes of FAA and applicant meetings, coordinate draft with the appropriately rated DER's and specialists, and submit to the FAA for concurrence. When appropriate, prepare draft conformity requests and a draft TIA, coordinate drafts with the appropriately-rated DER's and, specialists and submit to the FAA for review and issuance.

505. RELEASABILITY OF DATA.

a. Under the Freedom of Information Act (FOIA)(5 USC 552), releasability of the tracking form and the evaluation form have been reviewed by the Office of the Chief Counsel with the following observations:

(1) Blank Forms. Both the blank DER tracking form and the blank performance evaluation form are available to the public.

(2) Completed DER Tracking Forms. The type of information sought and provided in the body of the tracking form is basically factual, amounting to an accounting of the number and type of interactions between the DER and the FAA. As such, the information is NOT the type that normally would qualify for any exemption under the act. However, there may be rare instances where a DER includes explanatory information or supportive or supplemental documents, such as plans or drawings, that may be considered proprietary. Under those circumstances the proprietary information may qualify for protection under Exemption 4 (trade secret or commercial information disclosure of which would significantly harm submitter/corporation's competitive position). It is expected that such an occurrence will be the exception, rather than the rule.

(3) Completed DER performance evaluation forms typically are protected under Exemption 6 of the FOIA (disclosure would result in a clearly unwarranted invasion of personal privacy) so long as the individual DER's are identifiable. If the FAA receives a request for a number of DER evaluations and are able to delete the names and DER numbers so that a specific DER cannot be identified, then the completed forms should be released after retracting the identifying information. On the other hand, if a requester seeks the evaluation of a specific DER, then the evaluation may be protected under Exemption 6.

b. Company DER Information. Public availability of the listing of company DER's will be determined in accordance with Title 5, United States Code Section 552.

506. DER DATA BASE.

The ACO's have a responsibility to manage DER's. Part of the management involves some repetitive administrative functions such as: issuing renewal letters on an annual basis, initiating mailers for DER newsletters/conferences, and providing listings of DER's to the public. An additional responsibility involves monitoring the performance of the DER's. In the process of administering the DER program, supervising offices have a need to provide consulting DER's addresses and specialty information for publication in a national publication (Advisory Circular 183.29-1, Designated Engineering Representatives), to track DER activity, and to perform oversight activity.. The local DER data base will be used to accomplish these administrative functions. The primary functions of the local DER data base are to track and monitor DER's, DER candidate applications, delegations, performance feedback and renewals in the ACO, and to provide reporting capabilities on the local and national levels.

507. CHANGES TO ADDRESS.

Whenever a current DER has a change of address, a designation is canceled, or a designation expires, the appointing ACO must submit one copy of FAA Form 1770-7, Mailing List Action Request, to ABC-100 to ensure the DER mailing list is kept current. Use the following guidelines when submitting an FAA Form 1770-7 for a change of address or cancellation:

a. For a change of address, complete the form as outlined in paragraph 401.g. except as follows:

(1) In the upper middle section, mark the block labeled "CHG."

(2) In the section labeled "NEW", indicate the DER's new address using the same format outlined in paragraph 401.g.(4) for a consultant DER, or 401.g.(5) for a company DER.

(3) In the section labeled "OLD", indicate the DER's former address as it appears on the mailing label used by the U. S. Department of Transportation, Subsequent Distribution Office, M-483.6.

b. To remove a DER's name and address from the mailing list, complete the form as outlined in paragraph 401.g. except as follows:

(1) In the upper middle section, mark the block labeled "DROP."

(2) Leave the section labeled "NEW" blank.

(3) In the section labeled "OLD", indicate the former DER's name and address as it appears on the mailing label used by the U. S. Department of Transportation, Subsequent Distribution Office, Ardmore East Business Center, 3341 Q 75th Avenue, Landover, MD 20785,M-443.2.

c. AC 183.29. Address and Phone Number Changes for Consultant DER's should be reported to AFS-610 for inclusion in AC 183-29.

CHAPTER 6 CERTIFICATION ACTIVITIES

600. TYPE CERTIFICATION PROJECTS.
The DER may participate in the various engineering design approvals, including: an approval for a type certificate, a change in the type design project, an approval for a supplemental type certificate, TSOA, and PMA approvals based on test and computations. When specifically authorized, the DER may approve data for major alterations and repairs and make PMA findings of Identicality. Approval of the engineering technical data on FAA Form 8110-3 means that, within the limits of the DER's authority, the DER has determined that the data complies with FAA airworthiness requirements. These requirements include, but are not limited to, Federal Aviation Regulations, Special Federal Aviation Regulations (SFAR), special conditions, exemptions, and other requirements that have been adopted or accepted by the FAA such as the Joint Aviation Requirements for very light aircraft (JAR-VLA), and harmonized JAR's. DER's will follow the procedures of FAA Order 8110.4, Type Certification Process, in determining compliance with pertinent regulations. The specific role, authorized area, and responsibility the DER has in performing these functions may be established by agreement between the ACO and the DER.

a. **Type Certification.** Upon receipt of an application for a Type Certificate (TC), a Supplemental Type Certificate (STC), or a major change to an approved type design, representatives of the project ACO will discuss necessary procedures, requirements for compliance inspections, and conformity requirements with the applicant and the DER. The DER or the ACO will subsequently arrange, as necessary, periodic conferences to discuss any problems, status of the project, and arrangement for reporting progress. These conferences also provide the opportunity for a DER to be appropriately advised by the ACO of particular policies, standards, and procedures that apply to the specific project.

b. **Certification Plan.** A certification plan is required for all type certification projects and should be submitted early in the project. As a minimum, the Certification Plan should contain the following information:

(1) General information including identification of the applicant, application date, model designation, and etc.

(2) A general description of the concept, system, etc. including sketches and schematics.

(3) The certification basis including: applicable Federal Aviation Regulation paragraphs and sub- paragraphs, exemptions, and special conditions.

(4) How compliance will be shown (ground test, flight test, analysis, similarity, equivalent means of compliance, etc. and what will be submitted to show compliance.)

(5) Project schedule, including major milestones, preliminary hazard analysis submittal, detail submittals, when conformity and testing are required, and when final certification is expected.

(6) Identify all DER's, who will sign the FAA Form 8110-3 if required, their specialties, and if the DER will be approving the data or recommending approval of the data.

c. **Data Review.** All technical data must be examined by the DER to determine compliance with pertinent FAA requirements in accordance with the terms of the DER designation.

d. **Data Approval.** DER's are limited to data approval. Data approvals are in support of an eventual design approval issued by the FAA after compliance with all applicable airworthiness regulations is found. When the DER determines that specific data (reports, drawings, tests, etc.) show compliance with all pertinent FAA requirements, the findings are to be submitted to the ACO on FAA Form 8110-3. FAA Form 8110-3 outlines the nature and extent of the DER's approval. **The DER must advise the project ACO of relevant data which has not been approved to ensure a complete investigation of compliance with all pertinent requirements.** The original FAA Form(s) 8110-3, together with referenced approved reports and drawings, should be forwarded to the ACO as agreed to in the certification plan to meet agreed upon certification schedules. When data involves more than one DER, all the DER's involved must sign FAA Forms 8110-3 to indicate the total extent of DER approval. Separate FAA Forms 8110-3 may be submitted. Each DER approval must be clearly identifiable on each FAA Form 8110-3.

e. **Coercion.** The DER must not be forced to approve technical data which the DER has not had adequate time to review, or the DER does not find to comply with the applicable airworthiness requirements. The DER must report any coercion to the project ACO.

f. **Flight Tests**. If FAA flight tests are necessary, a completed FAA Form 8110-3 must be forwarded to the project ACO recommending approval of the proposed flight test plan and requesting issuance of a TIA. The flight test article(s) involved cannot be considered "approved" until FAA conformity/inspections have been satisfactorily completed. A TIA will be issued when flight tests are authorized. The DER, when authorized to conduct an FAA flight test, should coordinate the flight test with the appropriate FAA flight test representatives. Flight Test Pilot and Flight Analyst DER's should use a flight test risk management process as described in FAA Order 4040.26, Aircraft Certification Service Flight Safety Program.

g. **Flight Manuals**. All Aircraft Flight Manuals (AFM) and supplements or major revisions to AFM's must be approved by the manager of the appropriate ACO or an authorized representative. DER's may only recommend approval. However, DER's may be authorized by the manager of the ACO to approve specified minor revisions to AFM's. Test pilot and flight analyst DER's should use a flight test risk management process as described in FAA Order 4040.26.

h. **TC Boards**. DER's are encouraged to participate as advisors to the FAA in type certification board meetings on projects in which they are involved.

i. **Data Retention**. The applicant is responsible for maintaining a file of copies of all FAA Forms 8110-3 submitted to the FAA and any associated data.

601. CHANGES IN NOISE OR EMISSIONS.

The DER must determine if any type design change he or she is asked to approve will result in an "acoustical change" (reference 14 CFR, part 21, sections 21.93(b), 36.7, and 36.9) or changes to engine emissions (reference 14 CFR part 34. In cases where the DER suspects the design change might affect noise or emissions, the DER should consult with the cognizant ACO. If the FAA determines that the change does constitute a noise or emissions change, the DER must notify the applicant as soon as possible that the change will require a separate FAA noise or emissions evaluation and approval.

602. TEST PLANS.

A DER cannot approve test plans, but should recommend approval in the submittal to the ACO. The ACO may delegate test plan approval on a case-by-case basis.

603. TEST WITNESSING.

The DER must obtain specific authorization from the project ACO prior to witnessing a test as the FAA representative or approving any test data on behalf of the FAA. When obtaining this prior authorization, the DER must:

a. **Purpose of Test**. Define whether such tests are to show compliance with specific certification requirements (official FAA test), or to collect test data as part of the overall substantiation effort.

b. **Coordination With FAA**. Determine whether the FAA wishes to witness these tests.

c. **FAA Participation**. Discuss with the responsible ACO, tests involving controversial qualitative judgments to define the extent of participation by the FAA.

d. **Conformity Inspections**. Verify that the necessary FAA conformity inspections have been accomplished prior to conducting type certification tests.

e. **Tests Requiring DER Witnessing**. The DER is not required to witness an entire test to approve the test data. However, the DER should witness those portions of the test dealing with critical conditions to insure that all the data are valid. When a DER approves test data, the DER is indicating that those portions of the test dealing with critical conditions have been witnessed by the DER, the test was conducted in accordance with the FAA approved test program, and the data are official test results.

f. **Approval of Test Data**. A DER who is not authorized by the cognizant ACO to approve test data may be authorized to recommend FAA approval of test data within an FAA approved test program.

604. FLIGHT TEST PILOT DER.

A flight test pilot DER is required to perform all tests on which the DER intends to approve or recommend approval of the data. The extent and conduct of the overall flight test plan must be coordinated with the Project ACO. When a flight test pilot DER approves test data, the DER is indicating that the DER performed the tests, the tests were conducted in accordance with the approved test plan, and the data are official test results. Generally, flight test programs approved to be conducted by a DER will require the issuance of a Type Inspection Authorization (TIA) by the ACO.

605. PRODUCTION CHANGES.

a. Approval. Production changes are defined as changes incorporated during original manufacture. The DER may approve production changes to a model which is type certificated provided the DER determines that the modified model continues to comply with applicable regulations and standards.

b. ACO Review. The decision as to whether a change and/or modification is major or minor should be reviewed with the ACO if the decision is controversial or if the DER needs guidance. The extent and effect of a major or significant modification shall be discussed with the ACO to determine if original design requirements (pertinent regulation(s), basic load criteria, and test results) still apply, if the original application for type certificate will be affected, and if additional analysis, flight tests, ground tests, or ground inspections are necessary.

606. MRB ACTIONS.

a. Engineering Representative. The engineering member of the MRB is not required to be a DER. The members of the MRB are primarily manufacturer's personnel acting on behalf of the manufacturer. If the engineering representative is also a DER, the DER acts only as an engineering representative for the manufacturer, and not as a DER for the FAA during any participation in an MRB action.

b. Approval of Revised Data. When an MRB action requires a significant deviation from type design, a manufacturer may use an available and qualified DER to evaluate and approve the revised design data. DER approval of design data is indicated on FAA Form 8110-3, marked "Approve these data."

607. MILITARY CONVERSIONS.

A military aircraft owner may request a DER to handle the conversion of a military aircraft to its civil counterpart. The DER must inform the owner that a DER is limited to approving technical data.

608. APPROVAL OF SERVICE DOCUMENTS.

a. Engineering Aspects. Service changes are defined as changes incorporated after original manufacture and are identified in the manufacturer's service documents. The DER is encouraged to approve the engineering aspects of the product manufacturer's service documents. Service documents involving kits and type design changes require ACO approval; maintenance tips do not. A DER approval of service document information must be clearly stated to indicate that only the appropriate engineering aspects of the document are approved. FAA Form 8110-3 submittals should reference in the "applicable requirements" block the airworthiness requirements (Parts 23, 25, 27, 29, 31, 33, 35 etc.) for the system associated with the service bulletin and commensurate with the type certification basis.

b. Service documents that are made a part of an airworthiness directive, or referenced therein, must be approved by the ACO. Revisions of service documents which have been made a part of FAA regulatory action must be approved by the ACO.

c. Engine and propeller service documents are considered to be extensions of the instructions required by 14 CFR sections 33.4 and 35.4 and must be acceptable to the Administrator. AC 20-114, Manufacturer's Service Documents, suggests acceptable methods by which product manufacturers may indicate FAA approval of recommended actions prescribed in the manufacturer's service documents.

609. DER INTERNATIONAL OPERATING PROCEDURES.

a. Finding Compliance To Foreign Regulations. The ACO may authorize a DER to make compliance findings to specific foreign regulations delegated to the FAA by a foreign CAA. This can be done in accordance with Implementation Procedures for Airworthiness under a Bilateral Aviation Safety Agreement (BASA) or some other written FAA approved arrangement with that country (after consultation with AIR-4). The DER will provide the original FAA Form 8110-3 to the project ACO. The DER also must send a copy of the form to the appointing ACO, if different from the project ACO. The substantiating data must be provided to the project ACO if the "Recommend Approval" block is checked. The substantiating data must be made available to the project ACO if the "Approval" block is checked. The project ACO will transmit FAA approval to the foreign CAA.

NOTE: For subparagraph a. above, the Joint Aviation Authorities (JAA) can be substituted for a foreign CAA.

b. Compliance Findings Outside the U.S. A DER may be authorized to find compliance to 14 CFR in a country other than the U.S. under the following conditions and limitations:

(1) Project ACO. The project ACO must coordinate as applicable with the certifying ACO and the geographical ACO responsible for activities in the country/region in which the project will be accomplished.

(2) DER Access. The DER should be aware that some countries do not allow FAA designees to operate in their jurisdiction.

(3) U. S. Certificated and Foreign Registered Aircraft. The DER may only engage in activities pursuant to a U.S. Type Certificate/FAA approval or by direction of the project ACO.

(a) U.S. registered aircraft. Before a project ACO authorizes a DER to perform any authorized function(s) outside the United States, the project ACO must provide the cognizant CAA written notification requesting the CAA's concurrence prior to the DER's arrival, unless prior written permission exists. The notification will outline the proposed visit (e.g., anticipated activities, length of stay, etc.) and request the CAA's concurrence. Upon CAA approval, the project ACO will authorize DER activity.

(b) Foreign registered aircraft. If an aircraft is on foreign registry, the project ACO must have requested and received written permission/authority from the country of registry prior to any DER activity with the aircraft. The applicant must submit the letter or the ACO must obtain the letter from the airworthiness authority of the country of registry with the STC application, unless prior written permission exists. This foreign CAA letter should state that the foreign CAA has no objection to:

1. the modification itself, and

2. the use of FAA designees to approve this work (e.g., FAA DAR's and DMIR's making findings of conformity or DER's making findings of compliance for modifications/alterations on the aircraft registered in their country).

(4) Conformity Inspections. A DAR/DMIR with proper FAA authorization may conduct/verify conformity inspections required for the project. The DER should meet with the project ACO/MIDO as an initial step in the project to establish that the proposed DER and DAR/DMIR have the knowledge of the aircraft type design necessary to make findings of data compliance and conformity. For additional guidance concerning conformity inspections refer to FAA Order 8110.4, Type Certification Process.

(5) DER Limitations. The project ACO must be aware of the DER's limitations. More than one DER may be needed to cover the entire project. The applicant for a STC is responsible for identifying how each aspect of the project is to be approved so that the ACO can determine the full extent of its involvement.

(6) Finding of Compliance. A finding of compliance may also be made to requirements that have been adopted or accepted by the FAA, such as the Joint Aviation Requirements for very light aircraft (JAR-VLA), when used in certifying certain small aircraft. FAA Form 8110-3 is used to approve or recommend approval with U.S. requirements, or foreign CAA regulations as authorized by the ACO.

(7) Reporting Activities. During the DER's stay outside the U.S., the project ACO may require the DER to report activities periodically.

(8) FAA Approved Repair Stations. DER's working with FAA Approved Repair Stations in foreign countries shall give prior notification, in writing, to the FAA Flight Standards International Field Office having cognizance over the particular repair station involved. For identification and location of international offices, consult the ACO or a Regional Flight Standards Division Office.

610. PMA IDENTICALITY PROCEDURES.

The DER is required to follow the provisions of Order 8110.42, Parts Manufacturer Approval Procedures, when conducting PMA activities. An example of FAA Form 8110-3 with identicality notations is shown in Figure 17 of appendix 3.

a. Authority. The DER and the PMA applicant should verify the DER's authority and limitations before proceeding with the finding of identicality. The DER must be specifically authorized to make PMA Identicality findings.

b. Critical Parts. For critical and life-limited parts, appropriate DER's may sign FAA Form 8110-3 as "recommend approval" only. Final engineering approval is made by the ACO.

c. Other Parts. For other parts, appropriate DER's may sign FAA Form 8110-3 as "approved,"

indicating identicality to the TC or TSOA holder's data listed, i.e. the data that define the part covered under a TC or TSO approved article, eligible for installation on a type certificated product. The requested eligibility for the applicable product model(s) must be indicated. The applicant's TC holder or TSOA data examined by the DER will be submitted to the project ACO with FAA Form 8110-3 and the PMA data.

d. Findings. Checking the approved block on FAA Form 8110-3, Statement of Compliance with the Federal Aviation Regulations, does not mean that the PMA or any engineering aspects of the data are approved. It means the DER is indicating his or her finding that the PMA applicant's design is identical to the TC or TSOA holder's design. A note on FAA Form 8110-3 "LIST OF DATA" section must state "FAA approval of the design is contingent upon FAA engineering verification of the type design data (or TSOA data) listed."

NOTE: The "PURPOSE OF DATA" block on FAA Form 8110-3 will state "Identicality only approval under section 21.303." The "APPLICABLE REQUIREMENTS" block will state "FAR 21.303(c)(4)." The DER making the finding must hold delegated authority in the appropriate airworthiness areas.

e. FAA Actions. The FAA will verify that the listed TC or TSOA holder's data is approved type design data for the product models indicated and the stated eligibility is valid. The FAA also verifies that there are no mandatory corrective actions that must be implemented and that there are no serious unresolved service difficulties that make the part ineligible. The applicant's design need not conform to the latest revision level of the TC or TSOA holder's drawing if the FAA determines that the previously approved parts are still eligible for installation on the listed product models. Upon verification that all requirements are met, the ACO will continue processing the application in accordance with FAA Order 8110.42, Parts Manufacturer Approval Procedures.

611. REPAIRS AND ALTERATIONS.

A repair is the restoration of a damaged airframe, powerplant, propeller, or appliance accomplished in such a manner and using material of such quality that its restored condition will be at least equal to its original or properly altered condition (with regard to aerodynamic function, structural strength, resistance to vibration and deterioration, and other qualities affecting airworthiness). The damage can be due to deterioration or to external causes. An alteration is the modification of an aircraft from one sound state to another sound state; the aircraft meets the original airworthiness specifications and standards both before and after the modification.

a. Major repairs and alterations require the development of technical substantiation data specific to the proposed repair/alteration. This data needs to be submitted to the FSDO for approval or to the ACO at the FSDO's request for engineering approval. The DER can assist in the development and approval of substantiation data, if specifically authorized, to support the repair/alteration.

b. Minor repairs and alterations do not require FAA engineering approval; however, a technical rationale needs to be provided for the determination (justification) as to why the proposed repair/alteration is minor. In certain cases, some substantiation is required to show that the proposed repair/alteration has no effect on the weight, balance, performance, powerplant operation, etc. The repair station is responsible for identifying the type or scope of repairs/alterations that are considered as minor and obtain the concurrence from the FSDO. Therefore, DER assistance in this manner is not required since minor repairs/alterations do not require FAA engineering approval. 14 CFR part 1 defines "major alterations," "minor alterations," "major repairs," and "minor repairs." 14 CFR part 43, Appendix A, contains examples of major alterations and major repairs.

c. Authorization. The DER must obtain specific authorization from the appointing ACO prior to initiating approvals for major repairs or major alterations. Authorization may be verbal and confirmed in writing, by an authorization letter, or by an FAA Form 8110-25. An example of a letter authorizing approvals for repairs or alterations is shown in appendix 3, figure 18. An authorized DER may approve technical data for major repairs and alterations without first notifying the project ACO, except when the part is critical or life limited or if the work will be done outside the country. For guidance concerning operating outside the U.S. see paragraph 609. For critical or life limited parts, the DER must contact the project ACO for guidance.

d. Compliance Inspections. Aircraft compliance inspections are generally not delegated to DER's because of the complexity of assuring compliance with the many applicable airworthiness regulations. Information regarding compliance inspections is contained in FAA Order 8110.4, Type Certification Process. When approving engineering data for alterations that will

require a compliance inspection, the following note must be added to the body of the FAA Form 8110-3.

NOTE: "_____compliance inspection is not included in this approval and requires ACO approval."

e. Data Submittal. The DER will submit a copy of the original FAA Form 8110-3 to the owner/operator or repair station. The original FAA Form 8110-3 and, if specifically requested, a copy of the approved data will be sent to the appointing ACO to show activity or to the project ACO, if applicable. The transmittal of the FAA Forms 8110-3 should contain a reference to the owner/operator or repair station involved and where the airplane is located. The DER shall note in the "Purpose of Data" block of the FAA Form 8110-3 that the purpose is in support of a major repair or major alteration. The DER should add a note to show that the approval is engineering data approval only and is not installation approval. The DER must reference the serial number of the aircraft in the "purpose of data" block. Examples are shown in appendix 3, figures 10 and 11. The DER should also submit a copy of the FAA Form 8110-3 and a copy of the approved data to the repair station, or if required, a copy of the FAA Form 8110-3 to the aircraft owner/operator as part of the aircraft records required by 14 CFR section 43.9.

f. Coordination with Flight Standards. The DER should coordinate with the Flight Standards District Office responsible for the geographic area either domestic or foreign.

g. Field Approvals. The DER is not authorized to grant "field approvals" for return to service; to sign-off an FAA Form 337, Major Repair and Alteration; to grant data approval by signing log books, flight manuals, or other like documents; or to issue STC's. Refer to FAA Order 8300.10, Airworthiness Inspector's Handbook, for additional guidance related to field approvals of major repairs and major alterations. As an aid to the FSDO involved, the following note or notes similar to those on appendix 3 figures 10 and 11 should be added to the body of the FAA Form 8110-3:

"This approval is for engineering design data only and is not an installation approval. It indicates the data listed above demonstrates compliance only with the regulations specified by paragraph and subparagraph listed below as "APPLICABLE REQUIREMENTS." (Compliance with additional regulations not listed here may be required). This form does (does not) constitute FAA approval of all the engineering design data necessary for substantiation of compliance to necessary requirements for the entire alteration/repair."

h. Process Specifications. When being requested to approve the engineering aspects of a process specification associated with a repair, the DER should remind the repair station(s) that they have the responsibility to coordinate with the Flight Standards District Office (FSDO) and obtain the approval, since the process specification will be part of the repair station's operating specification or inspection procedure manual. The DER should not engage in the approval of generic process specifications. Many generic processes may have been accepted by industry, or may be listed as an acceptable method, technique, or practice in AC 43.13-1, Acceptable Methods, Techniques, and Practices Aircraft Inspection and Repair, or AC 43.13-2, Acceptable Methods, Techniques, and Practices Aircraft Alterations. In addition, the DER should not engage in the approval of shop practices such as parts inventory, receiving, handling, inspecting, cleaning, etc., since these practices do not require FAA engineering review/approval.

i. Interim Repairs. The DER must coordinate with the project ACO for the latest appropriate policy and guidance for anything other than a complete repair such as an "interim/time limited" structural repair. The DER is not authorized to approve extensions of established limits without prior coordination with the project ACO.

j. Use of Design Data. It is expected that basic design information will be available to DER's within a manufacturer's organization. A DER outside the manufacturer's organization should make every effort to obtain the necessary information. The DER should determine that the technical data covering the repair contain clear reference and appropriate consideration of all fundamental design information pertinent to the repair. The DER must develop, or obtain, the technical data necessary to substantiate the repair in accordance with the following guidance:

(1) Technical Data. The applicant or DER is responsible for showing compliance with applicable airworthiness requirements (14 CFR sections 21.101 or 21.115). Normally, these are the rules at the amendment levels which are defined in the applicable Type Certificate Data Sheet for which the manufacturer originally showed compliance.

(2) Standards. The technical data developed and used for a major repair must show that the condition of the repaired product will be at least equal to its original or properly altered condition. To accomplish this, the

data must show compliance with the applicable airworthiness standards.

(3) Performance. Both design data and substantiating data must be developed to show how the repaired or altered product meets all the requirements of the applicable regulations, and when operated within the approved flight envelope of the certificated aircraft and when maintained in accordance with FAA-approved or accepted manuals or an FAA-approved continuous airworthiness maintenance program, will function reliably throughout its established inspection interval.

k. Instructions for Continued Airworthiness (I.F.C.A.). The I.F.C.A. must be prepared and submitted in accordance with section 21.50 when applicable.

data must show compliance with the applicable airworthiness standards.

(3) Performance. Both design data and substantiating data must be developed to show how the repaired or altered product meets all the requirements of the applicable regulations, and when operated within the approved flight envelope of the certificated aircraft and when maintained in accordance with FAA-approved or accepted manuals or an FAA-approved continuous airworthiness maintenance program, will function reliably throughout its established inspection interval.

k. Instructions for Continued Airworthiness (I.F.C.A.). The I.F.C.A. must be prepared and submitted in accordance with section 21.50 when applicable.

CHAPTER 7. DER OVERSIGHT

700. DER OVERSIGHT.

As part of the DER management system, oversight is the process of documenting and tracking each key interaction, or a combination of key interactions, in a practical, consistent, credible, maintainable, and flexible manner.

a. **The eight key interactions** of DER oversight are:

(1) development of certification plans/compliance checklists,

(2) identification and resolution of significant technical issues,

(3) review and approval of compliance data,

(4) involvement in project management/administration,

(5) review and approval of repair/alteration data, including process specifications (activities in support of FAA Form 337, repair stations, etc.),

(6) investigation and resolution of significant service difficulties,

(7) participation in technical exchanges [meetings, etc. on general technical subjects], and

(8) participation in FAA training/seminars.

b. **Performance Feedback**. The DER will be informed of any performance concern through the evaluation process and given the opportunity to improve, assuming the concern was not so serious as to merit immediate certificate of delegation cancellation or non-renewal. Each Branch/ACO will assign an engineer as the responsible FAA Advisor for each DER. In addition, for DER's with multiple disciplines, an FAA Evaluator will be assigned in the other coordinating ACO/Branch(es). The time spent on the renewal process for each individual DER by the Advisor/Evaluator is a direct function of the frequency of interface during the year and may require only a brief review of the DER's file and DER/FAA Interaction Tracking Form to evaluate performance.

c. **FAA Response.** The ACO Personnel should review FAA Form 8110-3 submittals and should acknowledge to the DER receipt of the submittals.

701. DUAL APPOINTMENTS/CONSORTIUMS.

Dual Appointments should be managed by a single ACO in accordance with paragraph 201c. A company DER assigned to work in a consortium, business arrangement, partnership, licensing agreement, etc., should be managed by one ACO in accordance with paragraph 201a.

702. DER FILE.

The appointing ACO will establish and maintain a DER file for each of their DER's and DER Candidates. The DER file should contain the DER application letter and FAA Form 8110-14, copies of FAA Form 8000-5 and FAA Form 8110-25, Appointment Letter, Renewal Letters, verification of attendance at a DER Standardization Seminar, DER activities via copies of FAA Form 8110-3 or reference to a project file containing the original FAA Forms 8110-3, FAA/DER Interaction Tracking Forms, DER Evaluation Forms, Records of Discussion or Counseling conducted with the DER, and conflict of interest evaluation, if applicable. The DER files of those DER's whom the ACO has determined may have a potential for conflict of interest should be marked or flagged in a manner that readily distinguishes them from the other DER files. This special marking will alert the ACO to review the DER for potential conflict of interest during each renewal process. Copies of FAA Form 8110-3 are not required to be maintained past the current renewal period.

703. RENEWAL.

a. **DER Procedure**. The DER appointments are issued for a period not to exceed 1 year in accordance with section 183.15b. At the discretion of the Administrator, the appointment may be renewed annually provided the DER's performance is satisfactory. The DER/DER Candidate is required to complete and submit the DER/FAA Interaction Tracking Form on a yearly basis. (See appendix 3, figures 12 and 13.) The renewal cycle cannot be completed until this form is received.

b. **DER Candidate Procedure**. Although DER candidates are not renewed, they will be evaluated in the same manner as a DER.

c. Interaction Tracking Forms. Approximately 60 days prior to a DER renewal, the ACO and/or Branch will send a DER/FAA Interaction Tracking Form (appendix 3, figures 13 and 14) to each DER with instructions for completion and request that the tracking form be returned within 30 days to the appointing branch and/or office. As indicated on the Interaction Tracking Form, the DER is required to provide a brief summary of the previous year's activities. The DER should list the ACO engineering contacts, by name, during this period. This summary should include all FAA contacts in which the DER has designations. Detailed project information or design details that may be considered proprietary should not be included. The submittal of the properly completed Tracking Form is required before the DER appointment can be renewed. Since the form must be submitted before the DER's delegation can be renewed, the FAA is assured of being informed of key interactions. The method is flexible in allowing the ACO to establish the appropriate level of review.

NOTE 1: Blank Interaction Tracking/Evaluation Forms may be sent to the DER's, when requested, at the beginning of the renewal period for their use and reference during the year. Both forms may also be sent to each DER with the initial "Appointment Letter."

NOTE 2: If a DER is both a company and a consultant DER, two Interaction Tracking Forms should be sent to the DER for completion and submittal to the FAA for the renewal evaluation. The evaluation must be made for each category of DER appointment. Lack of activity in a particular category is grounds for not renewing a DER certificate.

NOTE 3: If a DER is a company or consultant DER, a single Interaction Tracking Form should be sent to the DER for completion. The DER should address all delegations (Airframe, Propulsion, etc.) on the same tracking form.

704. EVALUATION.

a. The DER Performance Evaluation Form (appendix 3, figures 15 and 16) will be completed by FAA personnel. The FAA is required to complete a DER Performance Evaluation Form every year, prior to renewal of the DER's appointment. The completed form will be retained in the DER file to document performance and, possibly, to be used as the basis for a non-renewal decision.

b. Evaluation Basis. The evaluation may not necessarily involve a detailed examination of the DER's work completed during the review period. The evaluator may rely on as many or as few sources as believed necessary to make assessments. Examples of sources that the evaluator may use include personal experience, performance or conduct notes, input from other FAA employees, input from the DER/FAA Interaction Tracking Form, and review of selected DER submittals.

(1) The 12 evaluation items are:

(a) Activity Level;

(b) Direct FAA Contact;

(c) DER/FAA Interaction Form;

(d) Application of regulations, policy, and guidance;

(e) Adherence to DER procedures;

(f) Integrity, sound judgment, and cooperative attitude;

(g) Technical competence in area of appointment;

(h) Attendance at required training;

(i) Ability to communicate clearly;

(j) Quality of submittals;

(k) Timely identification of significant issues; and

(l) Timely submittal of data.

(2) The purpose of the evaluation is to establish that the DER is performing at the satisfactory level, or to take corrective action if this is not the case. The FAA Advisor will coordinate with all FAA Evaluators and obtain completed FAA Evaluation Form(s) before initiating the renewal.

(3) Conflict of Interest. The risk of conflict of interest increases as a company DER takes on additional responsibilities and rises to an "executive" level within the company, where the primary job duties

are schedule-driven and devoted to the output of the company's whole saleable products. Additionally, a "consultant" DER who forms a company that applies for certificates and other approvals goes beyond a purely consulting function. Hence, the ACO's should increase surveillance in performance evaluations for these DER's. This increased surveillance should consist of monitoring and oversight in the form of a written summary showing that the DER's performance to the elements stated in paragraphs 704.b.(3)(a)1, 2, and 3 of this order. A minimum of two out of the three criteria in paragraph 704.b.(3)(a) should be used for this purpose.

(a) The following criteria should be used to evaluate whether the DER's company position can adversely affect the DER's ability to perform delegated functions objectively and independently. Compliance with these criteria should establish the necessary assurance that the DER's position within a company does not make that DER more vulnerable to abusing his or her FAA authority. The following elements define the criteria to be considered:

1 Adherence to DER procedures: The DER follows the DER handbook and other policy documents when performing his or her DER functions. It should be shown that the DER does not deviate from these procedures for non-performance related issues, such that the DER is not deceptive nor displays any artificiality or shallowness of any kind.

2 Shows integrity, sound judgment, and cooperative attitude. The DER is honest, complete and forthcoming with information in all dealings with the FAA.

3 Shows technical competence in area of appointment. The DER's technical work and interaction with the FAA continues to include appropriate compliance findings.

(b) When evaluating the above elements, the FAA Advisor should show that the DER was able to act independently and impartially. This is based on an analysis of how well the DER is able to separate his or her internal company functions and the ability to adequately exercise his or her DER authority.

(c) Below are examples of actions that may lead to discoveries of a change in the DER's performance that may affect the DER's ability to meet the above criteria in terms of separation of function. These examples are not all encompassing and serve only as stimulation and/or a starting point for the ACO's when complying with this order.

1 Performance degradation. If during an interaction, a meeting, a specific review, or when the Performance Evaluation Form is being utilized, a performance degradation is perceived or found, then the DER's FAA Advisor should be alerted. The FAA Evaluator at this point should consider the DER's position as a possible cause and investigate further. The investigation should weigh the evaluation against the elements set forth in this section.

2 Changed roles and/or responsibilities. For any company or consultant DER who has had roles, responsibilities, or a title change within that company, the FAA Advisor should conduct a review. The review should be aimed at the effect of those changes on the DER's activities and delegated authority. These changes may inhibit the DER's ability to perform to the expectations found in this section. Examples of this may include the following:

(aa) A promotion of a working level engineer/DER to a supervisory role within the company. The promotion would include leading a larger group of engineers, thereby giving that DER additional responsibilities that may adversely affect the DER's ability to perform impartially or stay focused on his or her delegated authority. This is further compounded by the fact that the company still chooses to use the DER in his or her previous technical areas.

(bb) A promotion and/or transfer to another technical area within the company; thereby, not allowing the DER to maintain the awareness needed to carry out his or her DER responsibilities, yet the company still wants to use the DER in the original capacity, (If this is true, it would be grounds for termination.)

(4) Leniency of Compliance Findings. A review that established a DER is not submitting technically complete work products for simple certification efforts that were easily achieved by that DER on past projects. At the same time, the FAA engineer knows that the DER is technically competent. During a typical interaction such as a technical meeting or a phone conversation, it becomes evident that the DER is not supporting well-established compliance guidelines during a certification program.

(5) Immediate Action. In any case where a DER is suspected of fraud or other activity for which emergency action is necessary to ensure safety, the ACO will immediately direct the DER to cease all further certification activity pending FAA investigation of the matter. Following a finding of a fraudulent or unsafe activity, the ACO shall initiate termination action.

c. Evaluation Procedures.

(1) Multiple Disciplines. If the DER has approval authority in more than one discipline, a copy of the completed Tracking Form will be supplied by the advisor to the evaluator in each discipline.

(2) The appropriate ACO Evaluator in each discipline will complete a DER Evaluation Form. The ACO Evaluator will be asked to respond to twelve performance elements, focused primarily on the qualities and qualifications necessary to gain initial appointment as a DER. Areas where the FAA will be required to make an assessment of the DER's performance include demonstration of technical competence, adherence to DER procedures, and timely identification of significant issues. The evaluator in each discipline will complete a DER Performance Evaluation Form, make a recommendation for renewal or non-renewal, and sign and date the form. The DER renewal package, with the completed evaluation form from each discipline, will be returned to the Advisor for further processing.

(3) The DER's files should be evaluated for acceptable activity level, notes on submittals, consultation letters, or any correspondence that would suggest the need for a more critical review. The ACO Advisor/Evaluator for each DER should be cognizant of that DER's activities, within his or her discipline, during the previous year.

(4) DER Independence. The FAA Evaluator should make a determination as to whether the DER has adequate independence to perform assigned duties and adequately administer the pertinent regulations.

(5) Unauthorized Activity. The DER's previous year activity will be compared to his or her delegated functions and authorized areas to ensure that no activity is outside their authorization. All FAA engineering notes on the submittal, letters accepting or rejecting data, records of counseling sessions, etc., should be reviewed and discussed with the cognizant FAA Evaluators, if appropriate, to insure that the evaluation accurately reflects the DER's performance during the previous year.

(6) Multiple ACO Activity. If the DER has made submittals to more than one ACO during the previous year, the evaluator will coordinate the evaluations with engineers or pilots in those ACOs. Only one "official" DER Performance Evaluation Form will be included in the renewal package for each authorized discipline.

d. Completion of the Evaluation Form. If performance is anything except satisfactory in any area, the FAA Evaluator will indicate in the "REMARKS" section any actions necessary to resolve the concern. The DER will be contacted for any indication except satisfactory. The renewal may be made with the other-than-satisfactory marks if justified by adequate resolution. If a problem with a DER is incurred by an ACO other than the appointing ACO, the ACO that has experienced the problem should report the problem to the appointing ACO in writing. The appointing ACO should notify the ACO reporting the problem of any corrective action taken by electronic mail or in writing.

NOTE: Only the DER and other FAA ACO Employees may be contacted in the course of completing the Performance Evaluation Form.

(1) The "Not Observed" (N/OB) choice will be used to indicate that neither the evaluator nor the persons who may have been surveyed, including the DER, are aware of activity in the area being evaluated. For example, it is very possible that the DER may not have been involved in the identification of significant issues during the review period. In this case, the "Not Observed" choice is appropriate and would not affect the renewal recommendation. An appropriate comment will be made in the "Remarks" section.

(2) Personal Contact. If personal contact with the DER is necessary to resolve a significant performance problem, the "Remarks" section of the Evaluation Form should identify the method of resolution agreed upon by the evaluator/DER of each issue raised. The DER should sign the Evaluation Form verifying his or her concurrence. As an alternative the resolution will be documented in a letter to the DER.

e. Recommendation For Non-Renewal. If the FAA Evaluator believes the DER is not performing at a satisfactory level in a number of areas, if the problem continues from year to-year, or if the deficiency in a given area is especially serious, the evaluator may

recommend that the DER appointment not be renewed, or that the delegation in that particular discipline be eliminated. The evaluator must contact the DER at this point and must be prepared to provide the documentation necessary to sustain a non-renewal or reduction of authorization. If non-renewal is based on inactivity, the DER file must have evidence that the DER has been previously cautioned that lack of activity may result in non-renewal of the authorization. The evaluator should coordinate the above concerns with the advisor and appropriate Branch and/or Office Manager for final resolution. Reference paragraph 705 for termination and paragraph 706 for termination procedures.

f. FAA Renewal Action.

(1) Advisor Approval. After adequate feedback has been provided by the other engineering disciplines, the DER/FAA Interaction Tracking Form is signed by the Advisor after verification that all required evaluation forms have been returned and are adequate.

(2) Renewal Letter. If there is no change in Approval Status, the Advisor will initiate coordination within the office to issue the Renewal Letter to the DER. The complete DER renewal package with the DER/FAA Tracking Form, the DER Performance Evaluation Form(s), and the signed renewal letter will be placed in the DER's file.

(3) 8110-25. A new FAA Form 8110-25 or a renewal letter will be issued prior to the expiration date of the current FAA Form 8110-25 unless the DER's file shows reasons, in writing, for termination of the DER's certificate. The ACO may, at its option, issue a letter (see appendix 3, figure 9) to renew in place of issuing a new FAA Form 8110-25. The letter of renewal and the existing FAA Form 8110-25 will provide the authorization for the DER to continue certification activities for up to one additional year.

705. TERMINATION.

Section 183.15(d) lists specific reasons for terminating a designation, and allows the FAA the discretion to rely on any other reason it considers appropriate. The following list of reasons for termination or non-renewal includes those listed in section 183.15(d)(1) through (5) and additional reasons considered appropriate under provisions of section 183.15(d)(6):

a. Written Request. At the written request of the DER or the DER's employer.

b. Change of Employment. In the event the company DER leaves the employment of the company that requested the designation.

c. Misconduct. Upon a finding by the Administrator that the DER has not properly exercised or performed the duties of the designation, i.e., misconduct by the DER in accordance with section 21.2.

d. Insufficient Activity. Upon a finding by the Administrator that the DER has not had sufficient activity to warrant continuance of the designation.

e. Qualifications. Upon a finding by the Administrator that the DER's specific qualifications have lapsed.

f. Lack of Care, Judgment, or Integrity. Upon a finding by the Administrator that the DER has not demonstrated the care, judgment, or integrity required for proper exercise of delegated authority.

g. DAS Staff. In the event the DER becomes a staff member of a DAS, an SFAR 36 holder, or a Delegation Option Authorization (DOA) holder, a DER must recognize that engineering activities as a DER and as a member of the engineering staff of any of these designated organizations are separate and distinct functions. As an engineering member of one of these organizations, the DER does not exercise the delegation. There may be instances, not related to designated organizational activities, where the organization's personnel can use their company or consultant designations; therefore, the DER delegation will not be terminated automatically when the DER is employed by one of these organizations, but will be reviewed for possible retention.

h. Other Reason. For any other reason the Administrator considers appropriate.

706. TERMINATION PROCEDURES.

FAA Order 8130.24, Procedures for Termination/Nonrenewal of Aircraft Certification Service Designations and Delegations, describes the procedures to be followed in terminating or not renewing DER designations. The following are additional considerations for these actions.

a. Notice of Action. The procedures applicable to DER's for giving notice of termination or nonrenewal and granting reconsideration for renewal are as follows:

(1) Company Misconduct/Insufficient Activity. If the termination or nonrenewal is based on insufficient activity at the company (production approval holder, supplier, or engineering organization), or on DER misconduct condoned by the company, notice will be given only to the company. Only the company may request reconsideration; the individual DER employed by the company may not.

(2) Consultant DER misconduct. If the termination or nonrenewal is based on misconduct of a consultant DER, notice will be given to the DER. The DER may appeal the action.

(3) Company DER Misconduct. If the termination or nonrenewal of a company DER is based on misconduct not condoned by the company, notice will be given to the DER and the company. Only the DER may request reconsideration. If the DER wishes, it is permissible to have the company participate in the appeal.

(4) By Request. If the designation is terminated or not renewed at the request of the DER's company, the procedures concerning reconsideration of the termination/nonrenewal do not apply. The decision to employ a DER is entirely within the discretion of the company or individual.

b. Written Notification. The company and/or an individual DER must be notified in writing of the reason(s) for any decision to terminate or not renew. The notification should be sent 30 days in advance of the intended effective date and should contain the following information:

(1) Reason for action. The reasons to terminate or not renew should be as specific as possible, and cite handbook guidelines. Any unacceptable conduct should be cited.

(2) Opportunity to Respond. The company and/or an individual DER must be notified in writing of the reason(s) for any decision to terminate or not renew. The reasons to terminate or not renew should be as specific as possible, and cite handbook guidelines. Any unacceptable conduct should be cited. The written notification should give the DER or the company the option to respond in writing or in person. The notification should allow a maximum of two weeks from the date of notification for the addressee to respond. If the DER or the organization chooses not to respond, the termination or non-renewal should be processed. The notification should advise the DER that if the DER responds in person, a record of the meeting with the DER will be made. The notification should also inform the DER that the DER may be accompanied by counsel if the DER so chooses.

c. Appeal Procedures. The appeal process should follow the following procedures:

(1) Meeting with DER. If a meeting with the DER is held, the meeting will be with the appointing ACO Manager and the project engineer(s)/pilot(s) who recommended the termination or non-renewal. The FAA will maintain a record of the meeting: either shorthand notes taken by a secretary, a summary written after the meeting, or a verbatim record taken by a court reporter. If the record consists of shorthand notes or a summary, a copy of the write-up should be sent to the DER to review and submit any proposed corrections.

(2) Notice of decision. The decision regarding the proposed action should be in writing from the ACO manager. When the decision is made to terminate or not renew a designation, the letter should restate the reasons and recite the justification for the decision, regardless of whether the DER or organization responded in writing or in person. The letter should give the DER or organization the opportunity to request reconsideration by the manager of the appropriate geographic directorate. At the option of the DER or organization, the reconsideration can take the form of review of material submitted by the DER or organization and terminating office, or another informal hearing at the manager's office, with a record being kept as described above.

(3) Directorate Review. If, after review at the directorate level, the directorate manager concurs with the decision to terminate or to not renew, the directorate manager will send a letter, certified mail/return receipt requested, to the DER or organization containing the decision and reciting the justification. The letter should also advise the DER that the decision is final and that the remaining legal remedy is as provided in FAA Order 8130.24, Procedures for Termination/Nonrenewal of Aircraft Certification Service Designations and Delegations.

d. ACO Coordination. ACO personnel shall coordinate all contemplated termination actions for cause with the geographical Aircraft Certification Directorate Manager and the appropriate Assistant Chief Counsel prior to the initiation of such action. The geographical Aircraft Certification Directorate should monitor implementation of such actions and should evaluate

performance and overall management of the DER program.

appointing ACO or the project ACO, if different from the appointing ACO.

d. FedWorld Bulletin Board System (BBS). The basic DER guidance material needed by the DER must be obtained by the DER through FedWorld. FedWorld is an electronically accessible information database that contains many current FAA publications such as safety data, airworthiness regulations, orders, notices, advisory circulars, and airworthiness directives. FedWorld provides an optional means of obtaining the required information to conduct the DER functions. FedWorld is maintained by the National Technical Information Service (NTIS), an agency of the U.S. Department of Commerce.

(1) Specific regulation(s), orders, and Advisory Circulars required to perform specific functions are reflected in paragraphs 800.b.(1), (2), and (3) of this order. This list reflects the minimum documents needed for certification activities. Other related regulations and policy can be obtained through FedWorld, the appointing ACO, the U.S. Government Printing Office, or U.S. Government Bookstores.

(2) Primary access to FedWorld is via the internet. The FedWorld file libraries are found at www.fedworld.gov/ftp.htm. A search engine is provided or you may scroll down to the FAA library of files and browse each file list. DER guidance is found in the OAI and RI libraries.

(3) FedWorld is also available via a dial-up bulletin board at (703) 321-3339. Set modem parity to none; data bits to 8; and stop bit to 1. Set terminal emulation to ANSI. Set duplex to full. Then dial FedWorld at (703) 321-3339. After connecting with FedWorld, follow the prompts for "Regulatory...," then "Regulatory Mall," then select the "FAA Library of files".

e. Changes To This Order. Any deficiencies found, clarifications needed, or improvements to be suggested regarding the content of this order should be forwarded to the Aircraft Certification Service (AIR), Automated Systems Branch, AIR-520, Attention: Directives Management Officer, for consideration. Your assistance is welcome. Federal Aviation Administration FAA Form 1320-19, Directive Feedback Information, is located on the last page of this order for your convenience. If an interpretation is urgently needed, you may contact the Aircraft Engineering Division, Policy and Procedures Branch, AIR-110, for guidance, but you should also use the FAA Form 1320-19 as a follow-up to verbal conversation.

APPENDIX 1. LIMITATIONS ON DER FUNCTIONS.

1. The following are inherently governmental functions and are to be referred to the FAA for approval. **DER's may only RECOMMEND these data for approval**:

a. Departures from specific policy and guidance.
b. New/Unproven technologies.
c. Equivalent level of safety findings.
d. Special Conditions.
e. Exemptions.

2. The FAA may delegate any examination, inspection, and test necessary to the issuance of a certificate. The decision to delegate is influenced by many factors. Some critical factors include the knowledge and expertise of the FAA personnel and the potential delegated personnel; the impact of the delegated task on safety; and the political sensitivity of the task. With this in mind, for any given certification program, **the FAA would more than likely reserve for itself, the approval of the following items.**

a. STRUCTURAL.
   (1) Approval of test plans.
   (2) Basic load reports.
   (3) Material and fastener allowables, including fatigue allowables.
   (4) Approval of life limits.
   (5) Previously unapproved crashworthiness matters.
   (6) Emergency evacuation test plans and analysis.
   (7) Damage tolerance evaluation methodologies.
   (8) Airworthiness limitations section of the instructions for continued airworthiness.
   (9) Approval of probability conclusions.
   (10) Interior Compliance Inspection.

b. POWERPLANT.
   (1) Approval of test plans.
   (2) Flight Test results.
   (3) Operational procedures and limitations.
   (4) System Safety Analyses for New Engine Installations.
   (5) Rotorburst Analyses for New Engine Installations
   (6) Operational procedures and limitations.
   (7) Fire safety hazard analyses.
   (8) Powerplant drainage test witnessing.
   (9) Induction system ice protection and installed engine characteristics in icing conditions for new engine installations.
   (10) Flammable fluid fire protection compliance inspection..
   (11) Fire detector and extinguishing systems and installations.
   (12) Software Verification and Validation.
   (13) Engine Performance Methodology.

APPENDIX 1. LIMITATIONS ON DER FUNCTIONS (Continued)

c. SYSTEMS & EQUIPMENT.
(1) Approval of test plans.
(2) New Concepts of System/Equipment Design.
(3) Software:
(a) Plan for Software Aspects of Certification.
(b) Configuration Index.
(c) Accomplishment Summary.
(4) Unconventional Applications of Systems/Equipment.
(5) Schematic Diagram, and Probability/Criticality analysis approvals.
(6) Control systems compliance inspection.
(7) Previously unapproved crashworthiness matters.
(8) Interior Compliance Inspection.
(9) Emergency evacuation test plans and analyses.

d. RADIO.
(1) Approval of test plans.
(2) New Concepts of System/Equipment Design.
(3) Schematic Diagram and Probability/Criticality analysis approvals.

e. ENGINE.
(1) Approval of test plans.
(2) Operational procedures and limitations.
(3) Critical rotating parts lifing methodologies.
(4) Installation instructions.
(5) Airworthiness limitation sections.
(6) Repairs to critical engine parts.
(7) Software Verification and Validation.
(8) Engine Emissions.

f. PROPELLER.
(1) Approval of test plans.
(2) Operational limits.
(3) Vibration analysis methods.
(4) Airworthiness limitation sections.
(5) Fatigue allowables and fatigue life.
(6) Loads Reports, particularly vehicle usage spectra.

g. FLIGHT ANALYST
(1) Approval of test plans.
(2) Overall flight and ground test plans limitations, operating procedures, or sequences.
(3) New methods or principles of testing or presentation of results.
(4) Unusual aircraft flying qualities and aircraft performance.
(5) Aircraft Flight Manuals or revisions, and Flight Manual Supplements.
(6) Flight advances technical design features.
(7) New operational procedures.
(8) Evaluation of Several STCs on one aircraft.
(9) Spot check certification flight test results.

APPENDIX 1. LIMITATIONS ON DER FUNCTIONS (Continued)

h. FLIGHT TEST PILOT.
(1) Approval of test plans.
(2) Overall flight and ground test plan limitations, operating procedures, or sequences.
(3) New methods or principles of testing or presentation of results.
(4) Unusual aircraft flying qualities and aircraft performance.
(5) Aircraft Flight Manuals or revisions, and Flight Manual Supplements.
(6) Flight advances technical design features.
(7) New operational procedures.
(8) Evaluation of Several STC's on one aircraft.
(9) Spot check certification flight test results.

i. ACOUSTICAL.
(1) Test witnessing (in accordance with an approved test plan).
(2) Aircraft reference profiles (when based on approved aircraft performance).
(3) Operating limitations.
(4) Final aircraft noise certification levels compliance report approval, unless the noise levels are derived from an FAA approved and applicable noise certification data base utilizing FAA approved processes and FAA approved aircraft performance data..

NOTE: "Safety Analysis" may include but is not limited to the following:

- Functional Hazard Analysis (FHA)
- Failure Modes and Effects Analysis (FEMA)
- Fault Tree Analysis (FTA)
- Zonal Analysis (ZA)

APPENDIX 2. DELEGATED FUNCTIONS AND AUTHORIZED AREAS.

FIGURE 1. CHART A, DESIGNATED ENGINEERING REPRESENTATIVE STRUCTURAL

NOTES:

1. Established appointment areas for qualified applicants are indicated by "X".

2. Regulatory areas in which the designee is authorized are shown on FAA Form 8110-25.

	AUTHORIZED AREAS	Structural-General (1)	Structural-Wing Group	Structural-Fuselage Group	Structural-Empennage Group	Structural-Landing Gear	Structural-Flight Controls	Structural-Rotor	Loading Control Documents	Metallic Materials (2)	Nonmetallic Materials (3)	Interior Arrangements	Interior Materials	Fire Protection	Evacuation Systems	Door Systems	Special (Specify)
	DELEGATED FUNCTIONS	**A**	**B**	**C**	**D**	**E**	**F**	**G**	**H**	**I**	**J**	**K**	**L**	**M**	**N**	**O**	**P**
1	STATIC ANALYSIS	X	X	X	X	X	X	X									X
2	DYNAMIC ANALYSIS	X				X		X									X
3	FATIGUE ANALYSIS	X	X	X	X	X		X									X
4	DESIGN AND CONSTRUCTION	X	X	X	X	X	X	X				X	X	X	X	X	X
5	FLUTTER/GROUND VIBRATION	X						X									X
6	SAFETY ANALYSIS	X				X	X							X	X	X	X
7	FLOTATION & DITCHING ANALYSIS	X															X
8	STRUCTURAL LOADING LIMITATIONS								X								X
9	SERVICE DOCUMENTS	X	X	X	X	X	X	X				X	X	X	X	X	X
10	MATERIAL & PROCESS SPEC.									X	X						X
11	FLAMMABILITY												X	X			X
12	DAMAGE TOLERANCE EVALUATIONS	X						X									X

NOTE (1): Embraces all airframe components such as wing, fuselage, empennage, landing gear, flight controls, engine mounts, and special components, but does not apply to rotors.

NOTES (2) and (3): Select Specialty by Note number and sub-letter. General applies to all processes listed.

(2) Metallic Materials/Processes
- A - Materials & Processes - General
- B - Non-Destructive Inspection/Testing
- C - Metallurgy
- D - Metal Joining Processes
- E - Structural Adhesives
- F - Mechanical Fasteners
- G - Surface Treatment/Coatings
- H - Bearings

(3) Nonmetallic Materials/Processes
- A - Material & Processes - General
- B - Transparent (Glazed) Material
- C - Polymeric Materials
- D - Structural Adhesives
- E - Mechanical Fasteners
- F - Composites
- G - Non-Destructive Inspection/Testing
- H - Surface Treatment & Coatings
- I - Structural Joining Methods

APPENDIX 2. DELEGATED FUNCTIONS AND AUTHORIZED AREAS (Continued)

FIGURE 2. CHART B, DESIGNATED ENGINEERING REPRESENTATIVE POWERPLANT INSTALLATIONS

NOTES:

1. Established appointment areas for qualified applicants are indicated by "X".

2. Regulatory areas in which the designee is authorized are shown on FAA Form 8110-25.

	AUTHORIZED AREAS	Airplane Turbine Engine	Airplane Piston Engine	Rotorcraft Turbine Engine	Rotorcraft Piston Engine	Auxiliary Power Unit (APU)	Special (Specify)
	DELEGATED FUNCTIONS	**A**	**B**	**C**	**D**	**E**	**F**
1	ENGINE INSTALLATION	X	X	X	X	X	X
2	FUEL & OIL	X	X	X	X	X	X
3	INDUCTION/EXHAUST SYSTEMS	X	X	X	X	X	X
4	THRUST REVERSERS	X	X				X
5	FIRE PROTECTION	X	X	X	X	X	X
6	ICE PROTECTION	X	X	X	X	X	X
7	COOLING	X	X	X	X	X	X
8	ENGINE PERFORMANCE/OPERATIONS	X	X	X	X	X	X
9	INDICATING SYSTEMS	X	X	X	X	X	X
10	LIGHTNING/HIRF PROTECTION	X	X	X	X	X	X
11	SOFTWARE	X	X	X	X	X	X
12	CONTROL SYSTEM - ELECTRONIC	X	X	X	X	X	X
13	CONTROL SYSTEM - MECHANICAL	X	X	X	X	X	X
14	EMISSIONS	X	X	X	X		X
15	VIBRATION - ENGINE, PROPELLER, OR DRIVE SYSTEM	X	X	X	X		X
16	PROPELLER	X	X				X
17	DRIVE SYSTEM	X	X	X	X		X
18	TRANSMISSIONS			X	X		X
19	SAFETY ANALYSIS	X	X	X	X	X	X
20	SERVICE DOCUMENTS	X	X	X	X	X	X

APPENDIX 2. DELEGATED FUNCTIONS AND AUTHORIZED AREAS (Continued)

FIGURE 3. CHART C1, DESIGNATED ENGINEERING REPRESENTATIVE SYSTEMS AND EQUIPMENT (MECHANICAL EQUIPMENT)

NOTES:

1. Established appointment areas for qualified applicants are indicated by "X".

2. Regulatory areas in which the designee is authorized are shown on FAA Form 8110-25.

	AUTHORIZED AREAS	Air Conditioning	Hydraulic	Ice Protection	Rain Protection	Oxygen	Pneumatics	Wheels, Tires, and Brakes	Interior Arrangements	Interior Materials	Pressurization	Fire Protection	Water System, Potable and Waste	Evacuation Systems	Special (Specify)
	DELEGATED FUNCTIONS	A	B	C	D	E	F	G	H	I	J	K	L	M	N
1	DETAIL DESIGN AND INSTALLATION	X	X	X	X	X	X	X	X	X	X	X	X	X	X
2	EQUIPMENT QUALIFICATION TESTS	X	X	X	X	X	X	X			X	X	X	X	X
3	SOFTWARE	X	X	X	X	X	X	X			X	X	X		X
4	SAFETY ANALYSIS	X	X	X	X	X	X	X			X	X	X	X	X
5	FLAMMABILITY									X		X			X
6	LIGHTNING/HIRF PROTECTION	X	X	X	X	X	X			X	X	X	X		X
7	SERVICE DOCUMENTS	X	X	X	X	X	X	X	X	X	X	X	X	X	X

APPENDIX 2. DELEGATED FUNCTIONS AND AUTHORIZED AREAS (Continued)

FIGURE 4. CHART C2, DESIGNATED ENGINEERING REPRESENTATIVE SYSTEMS AND EQUIPMENT (ELECTRICAL EQUIPMENT)

NOTES:

1. Established appointment areas for qualified applicants are indicated by "X".

2. Regulatory areas in which the designee is authorized are shown on FAA Form 8110-25.

	AUTHORIZED AREAS	Electrical Equipment/Systems	Electronic Equipment/Systems	Communications Systems/Antennas	Automatic Flight Controls/Augmentation	Instruments	Navigation Systems/Antennas	Air Data/Pitot Static	Warning Systems	Interior/Exterior Lighting	Flight Data/Voice Recording	Passenger Address/Entertainment	Special (Specify)
	DELEGATED FUNCTIONS	A	B	C	D	E	F	G	H	I	J	K	L
1	DETAIL DESIGN AND INSTALLATION	X	X	X	X	X	X	X	X	X	X	X	X
2	EQUIPMENT QUALIFICATION TESTS	X	X	X	X	X	X	X	X	X	X	X	X
3	SOFTWARE	X	X	X	X	X	X	X	X		X	X	X
4	SERVICE DOCUMENTS	X	X	X	X	X	X	X	X	X	X	X	X
5	ELECTRICAL LOAD ANALYSIS	X	X	X	X	X	X	X	X	X	X	X	X
6	SAFETY ANALYSIS	X	X	X	X	X	X	X	X	X	X	X	X
7	LIGHTNING/HIRF PROTECTION	X	X	X	X	X	X	X	X				X

APPENDIX 2. DELEGATED FUNCTIONS AND AUTHORIZED AREAS (Continued)

FIGURE 5. CHART D, DESIGNATED ENGINEERING REPRESENTATIVE RADIO

NOTES:

1. Established appointment areas for qualified applicants are indicated by "X".

2. Regulatory areas in which the designee is authorized are shown on FAA Form 8110-25.

	DELEGATED FUNCTIONS	AUTHORIZED AREAS: Radio Design (A)	Operating Characteristics (B)	Antenna Design (C)	Radio Installation (D)	Special (Specify) (E)
1	ANALYTICAL SUBSTANTIATION	X	X	X	X	X
2	DETAIL DESIGN	X	X	X	X	X
3	SAFETY ANALYSIS	X	X	X	X	X
4	SERVICE DOCUMENTS	X	X	X	X	X

APPENDIX 2. DELEGATED FUNCTIONS AND AUTHORIZED AREAS (Continued).

FIGURE 6. CHART E, DESIGNATED ENGINEERING REPRESENTATIVE ENGINES

NOTES:

1. **Established appointment areas for qualified applicants are indicated by "X".**

2. **Regulatory areas in which the designee is authorized are shown on FAA Form 8110-25.**

	DELEGATED FUNCTIONS	AUTHORIZED AREAS		
		Turbine Engines	Piston Engines	Special (Specify)
		A	B	C
1	DETAIL DESIGN	X	X	X
2	BLOCK TESTS	X	X	X
3	PERFORMANCE CHARACTERISTICS	X	X	X
4	VIBRATION ANALYSIS	X	X	X
5	OPERATION MANUALS	X	X	X
6	OVERHAUL MANUALS	X	X	X
7	SERVICE DOCUMENTS	X	X	X
8	EXHAUST EMISSIONS EVALUATION	X	X	X
9	SOFTWARE	X	X	X
10	SAFETY ANALYSIS	X	X	X
11	LIGHTNING/HIRF PROTECTION	X	X	X

APPENDIX 2. DELEGATED FUNCTIONS AND AUTHORIZED AREAS (Continued)

FIGURE 7. CHART F, DESIGNATED ENGINEERING REPRESENTATIVE PROPELLERS

NOTES:

1. Established appointment areas for qualified applicants are indicated by "X".

2. Regulatory areas in which the designee is authorized are shown on FAA Form 8110-25.

	DELEGATED FUNCTIONS	AUTHORIZED AREAS: A – Controllable-Pitch Propellers	B – Fixed Pitch Propellers	C – Special (Specify)
1	DETAIL DESIGN	X	X	X
2	BLOCK TESTS	X	X	X
3	PERFORMANCE CHARACTERISTICS	X	X	X
4	VIBRATION ANALYSIS	X	X	X
5	OPERATION MANUALS	X	X	X
6	OVERHAUL MANUALS	X	X	X
7	SERVICE DOCUMENTS	X	X	X
8	SOFTWARE	X		X
9	SAFETY ANALYSIS	X	X	X
10	LIGHTNING/HIRF PROTECTION	X	X	X

APPENDIX 2. DELEGATED FUNCTIONS AND AUTHORIZED AREAS (Continued)

FIGURE 8. CHART G, DESIGNATED ENGINEERING REPRESENTATIVE FLIGHT ANALYST

NOTES:

1. Established appointment areas for qualified applicants are indicated by "X".

2. Regulatory areas in which the designee is authorized are shown on FAA Form 8110-25.

	AUTHORIZED AREAS	Aircraft Performance	Aerodynamics	Flight Characteristics	Sys. Calib. (Air Spd., Alt., Air Temp.)	Propulsion Sys. & Related Components	Elec./Electronic Sys.-Related Components	Mech. & Hyd. Sys.-Related Components	Pressure & Air Conditioning Systems	Auto Control Systems	Ice Protection System	Special (Specify)	Part 36 Reference Conditions (1)
	DELEGATED FUNCTIONS	A	B	C	D	E	F	G	H	I	J	K	L
1	REVIEW FLIGHT TEST PLANS	X	X	X	X	X	X	X	X	X	X	X	
2	REVIEW FLIGHT TEST INSTRUMENTATION	X	X	X	X	X	X	X	X	X	X	X	
3	WEIGHT AND BALANCE SURVEILLANCE	X	X	X			X			X			
4	FLIGHT TEST DATA RECORDING	X	X	X	X	X	X	X	X	X	X	X	
5	FLIGHT TEST DATA REDUCTION/ANALYSIS	X	X	X	X	X	X	X	X	X	X	X	
6	FLIGHT TEST DATA EXPANSION (ALTITUDE/TEMPERATURE/WEIGHT)	X	X										
7	COMPILE FLIGHT TEST REPORTS	X	X	X	X	X	X	X	X	X	X	X	
8	COMPILE PERFORMANCE SUBSTANTIATION REPORTS	X	X										
9	COMPLETE PORTIONS OF TYPE INSPECTION REPORTS	X	X	X	X	X	X	X	X	X	X	X	
10	REVIEW AIRCRAFT FLIGHT MANUAL AND RECOMMEND APPROVAL	X	X	X	X	X	X	X	X	X	X	X	
11	COMPILE PART 36 REFERENCE PROFILES												X

NOTE (1) : Specific appendix to part 36 (e.g., Appendix C, Appendix G, Appendix H, Appendix J) may be controlled by Federal Aviation Regulations authorized in delegation letter (e.g., FAR 23, FAR, 25, FAR 27, FAR 29) or by specific appendix (e.g. Appendix J Only). This may require specific FAR limitations for new authorized area L and delegated function 11.

APPENDIX 2. DELEGATED FUNCTIONS AND AUTHORIZED AREAS (Continued)

FIGURE 9. CHART H, DESIGNATED ENGINEERING REPRESENTATIVE FLIGHT TEST PILOT

NOTES:

1. Established appointment areas for qualified applicants are indicated by "X".

2. Regulatory areas in which the designee is authorized are shown on FAA Form 8110-25.

	AUTHORIZED AREAS	Aircraft Performance	Flight Characteristics	Propulsion Systems	Hyd., Elec., & Pneu. Systems	Pressurization and A/C Systems	Flight Instruments & Systems	Auto Control Systems	Ice Protection Systems	Operating Limitations/Procedures	H/V (Rotorcraft)	Special (Specify)
	DELEGATED FUNCTIONS	A	B	C	D	E	F	G	H	I	J	K
1	RECOMMEND APPROVAL OF FLIGHT TEST PLANS	X	X	X	X	X	X	X	X	X	X	X
2	CONDUCT GROUND TESTS AND EVALUATIONS	X		X	X	X	X	X	X	X		X
3	CONDUCT FLIGHT TESTS AND EVALUATIONS	X	X	X	X	X	X	X	X	X	X	X
4	COMPILE TEST REPORTS		X				X	X		X	X	X
5	COMPLETE PORTIONS OF AND APPROVE THE TYPE INSPECTION REPORT	X	X	X	X	X	X	X	X	X	X	X
6	RECOMMEND APPROVAL OF AIRCRAFT FLIGHT MANUAL	X	X	X	X	X	X	X	X	X	X	X

APPENDIX 2. DELEGATED FUNCTIONS AND AUTHORIZED AREAS (Continued)

FIGURE 10. CHART I, DESIGNATED ENGINEERING REPRESENTATIVE ACOUSTICAL

NOTES:

1. Established appointment areas for qualified applicants are indicated by "X".

2. Regulatory areas in which the designee is authorized are shown on FAA Form 8110-25.

	DELEGATED FUNCTIONS	AUTHORIZED AREAS: Acoustical A	AUTHORIZED AREAS: Special (Specify) B
1	MEASUREMENT LOCATIONS	X	X
2	RECORDING EQUIPMENT	X	X
3	ANALYSIS EQUIPMENT	X	X
4	ENVIRONMENTAL CONDITIONS	X	X
5	CALCULATION PROCEDURE	X	X

NOTE: All of the above areas are only authorized on a case-by-case basis.

APPENDIX 3. SAMPLES, FORMS, AND LETTERS

FIGURE 1. STATEMENT OF QUALIFICATIONS (DAR-DMIR-DER-DPRE-DME)

Organizations complete only the applicable blocks and attach separate resumes with the names, signatures, titles and qualifications of those persons who would actually perform the authorized functions.

US Department of Transportation
Federal Aviation Administration

STATEMENT OF QUALIFICATIONS
(DAR—DMIR—DER—DPRE—DME)

Form Approved OMB-2120-0035

INSTRUCTIONS: *Print or type all entries except signatures*

3. U.S. CITIZEN ☒ Yes ☐ No

1. NAME *(Last, first, middle)* OR ORGANIZATION	PHONE NUMBER	4. SOCIAL SECURITY NO.
Doe, John D.		355-40-5522
2. ADDRESS *(Number, street, city, state, and ZIP code)*		**5. DATE OF BIRTH**
352 N. Bangor Ct., Irving, TX 75060		July 4, 1955

6. DESIGNATION SOUGHT

Designated Manufacturing Inspection Representative (DMIR)					
Designated Mechanic Examiner (DME)	Airframe Rating		Powerplant Rating		
Designated Parachute Rigger (DPRE)	Seat	Back	Chest	Other	
☒ Designated Engineering Representative (DER) (Consultant)	☒ Structural Engineering FAR 23 & 25		Engine Engineering		
	Powerplant Engineering		Propeller Engineering		
	Systems and Equipment Engineering		Flight Analyst		
	Acoustical Engineering		Flight Test Pilot		
Designated Airworthiness Representative (DAR)	Manufacturing Function(s)		NOTE: A separate application must be submitted for each discipline i.e. manufacturing engineering, maintenance.		
	Engineering Functions(s)				
	Maintenance Function(s)				

DAR applicants shall identify specific function(s), currently authorized in AC 183-35, for which appointment is sought:

Order 8110.37C, Appendix 2, Figure 1, Chart A; Delegated Functions 1,3, & 4; Authorized Areas B, C, & D

7. EXPERIENCE RESUME FOR NUMBER OF YEARS, AS APPROPRIATE, PERTINENT TO DESIGNATION SOUGHT. ***Use additional sheets if necessary)***

Dates From	Dates To	Employer's Name	Position Title and Duties
1-84	Pres.	J. D. Doe & Associated Consultant Aeronautical Engineers, Dallas, TX	President and Chief Engineer

8. EDUCATION AND TRAINING HIGH SCHOOL LEVEL AND ABOVE PERTINENT TO DESIGNATION SOUGHT.

Dates From	Dates To	Name of School	Curriculum or Study Program	Degrees Received
9-74	7-79	Oklahoma State University Stillwater, OK	Mechanical Engineer	B.S.

9. FAA CERTIFICATES NOW HELD PERTINENT TO DESIGNATION SOUGHT.

Type	Certificate No.	Rating	Date Each Rating Issued
Private Pilot	1737685	Airplane Single Engine Land	3-08-80

10. EMPLOYER'S RECOMMENDATION ***(To be completed for DER and DMIR only)***

I recommend the person identified above be appointed as:
☐ Designated Engineering Representative ☐ Designated Engineering Manufacturing Inspection Representative

Date	Primary Business	Signature
(NOT APPLICABLE	-SELF EMPLOYED CONSULTANT)	

11. LOCATION WHERE DESIGNEE FUNCTIONS WILL BE PERFORMED ***(To be completed for DAR, DME, and DPRE only)***

Address	Telephone Number
(NOT APPLICABLE)	

12. CERTIFICATION: I certify that the above statements are true to the best of my knowledge and that I am familiar with the Federal Aviation Regulations pertinent to the designation sought.

Date	Signature
September 1, 1988	John D. Doe

FAA Form 8110-14 (3-83) SUPERSEDES PREVIOUS EDITION **(REPRESENTATION)**

SAMPLE - FAA Form 8110-14 (Front)
(Reduced to approximately 80% actual size)

APPENDIX 3. SAMPLES, FORMS, AND LETTERS (Continued)
FIGURE 2. STATEMENT OF QUALIFICATIONS (DAR-DMIR--DER-DPRE-DME)
(REVERSE)

13. ACTION RECORD *(For FAA Use Only)*

Designees Name/Organizational Name	**Designation Number**
John D. Doe	SW-535
Date Applicant Interviewed September 6, 1988	**Date Certificate of Authority Expires** October 3, 1989
Date References Verified September 25, 1988	
Date Applicant Notified ☒ Accepted Denied September 30, 1988	**Signature of Approving Authority**

14. RECORD OF APPROVAL

Designated Manufacturing Inspection Representative (DMIR)					
Designated Mechanic Examiner (DME)	Airframe Rating		Powerplant Rating		
Designated Parachute Rigger (DPRE)	Seat	Back	Chest	Other	
☒ Designated Engineering Representative (DER) (Company)	☒ Structural Engineering FAR 23 & 25		Engine Engineering		
	Powerplant Engineering		Propeller Engineering		
	Systems and Equipment Engineering		Flight Analyst		
	Acoustical Engineering		Flight Test Pilot		
Designated Airworthiness Representative (DAR)	Manufacturing Function(s)		**NOTE:** A separate approval is required for each discipline		
	Engineering Functions(s)				
	Maintenance Function(s)				

Function(s) Authorized *(Identify specific functions authorized including any limitations)*
Order 8110.37C, Appendix 2, Figure 1, Chart A; Delegated Functions 1, 3, & 4; Authorized Areas B, C, & D

15. RECORD OF SUBSEQUENT ACTIONS

Type			Name Address and Telephone No. *(If Changed)*	Date Status of Designee Amended	FAA Official
Annual Renewal	Change of Address	Cancellation			

SAMPLE - FAA Form 8110-14 (Back)
(Reduced to approximately 80% actual size)

APPENDIX 3. SAMPLES, FORMS, AND LETTERS (Continued)
FIGURE 3. CERTIFICATE OF AUTHORITY (DER)

Department of Transportation
FEDERAL AVIATION ADMINISTRATION
CERTIFICATE OF AUTHORITY(DER)

IS AUTHORIZED TO ACT AS A
DESIGNATED ENGINEERING REPRESENTATIVE

Engineering Specialty	DER No.	Expires: Annually
John E. Smith	DERT-666666-NM	FEB 1 *

Company/Consultant	Designee (Signature)
Consultant	*John E. Smith*

Date	Authorizing Office	Authorizing Official
3/18/1998	ANM-130L	*John L. Brown* Manager, Systems & Equip. Branch, LAACO

The bearer is authorized to act in the capacity set forth on this Certificate of Authority in the following delegated functions and authorized areas.

*FAA LETTER IS EVIDENCE OF RENEWAL.

Comments: App. Area - Authorized in Order 8110.37C, App. 2, FAR 25.
Chart C1 - RECOMMEND APPROVAL ONLY:-H1
Chart C2 - B1, B1, B5, C1, C2, C5, D1, D5, E1, E2, F1, F2, F5

RECOMMEND APPROVAL ONLY:-B6, C6, D6, E6, F6, K6
Chart G - F1, F2, F3, F4, F5, F10

*NOTE: RETURN CARD IF NOT RENEWED — FAA Form 8110-25 (Rev 9-93)

SAMPLE - Computer Generated FAA Form 8110-25

APPENDIX 3. SAMPLES, FORMS, AND LETTERS (Continued)
FIGURE 4. CERTIFICATE OF DESIGNATION

U.S. Department of Transportation
Federal Aviation Administration

Certificate of Designation

Reposing special trust and confidence in the integrity, diligence, and discretion of

JOHN DOE

who has been found to have the necessary knowledge, skill, experience, interest, and impartial judgment to merit special public responsibility, I hereby designate as

DESIGNATED ENGINEERING REPRESENTATIVE

with authorization to act in accordance with the regulations and procedures prescribed by the Federal Aviation Administration relating to this designation.

Issued at SOUTHWEST REGION, FORT WORTH, TEXAS
Dated OCTOBER 3, 1988
Certificate No. SW-535
Certificate No.

By Direction of the Administrator
John Smith
MANAGER, AIRPLANE CERTIFICATION OFFICE

FAA FORM 8000-5 (4-84)(REPRESENTATION)

[Note: FAA Form 8000-5 is printed on parchment, 8"X10" in size, suitable for framing. Text is printed in black with top line and DOT emblem in blue.]

SAMPLE - FAA Form 8000-5
(Reduced to approximately 70% actual size)

APPENDIX 3. SAMPLES, FORMS, AND LETTERS (Continued)
FIGURE 4. CERTIFICATE OF DESIGNATION

U.S. Department of Transportation
Federal Aviation Administration

Certificate of Designation

Reposing special trust and confidence in the integrity, diligence, and discretion of

JOHN DOE

who has been found to have the necessary knowledge, skill, experience, interest, and impartial judgment to merit special public responsibility, I hereby designate as

DESIGNATED ENGINEERING REPRESENTATIVE

with authorization to act in accordance with the regulations and procedures prescribed by the Federal Aviation Administration relating to this designation.

Issued at SOUTHWEST REGION, FORT WORTH, TEXAS
Dated OCTOBER 3, 1988
Certificate No. SW-535
Certificate No.

By Direction of the Administrator
John Smith
MANAGER, AIRPLANE CERTIFICATION OFFICE

FAA FORM 8000-5 (4-84)(REPRESENTATION)

[Note: FAA Form 8000-5 is printed on parchment, 8"X10" in size, suitable for framing. Text is printed in black with top line and DOT emblem in blue.]

SAMPLE - FAA Form 8000-5
(Reduced to approximately 70% actual size)

APPENDIX 3. SAMPLES, FORMS, AND LETTERS (Continued)

FIGURE 6. SAMPLE FAA Form 8110-3, STATEMENT OF COMPLIANCE WITH THE FEDERAL AVIATION REGULATIONS

U.S. DEPARTMENT OF TRANSPORTATION
FEDERAL AVIATION ADMINISTRATION

STATEMENT OF COMPLIANCE WITH THE FEDERAL AVIATION REGULATIONS

DATE: 11-15-88

AIRCRAFT OR AIRCRAFT COMPONENT IDENTIFICATION

MAKE	MODEL NO.	TYPE (*Airplane, Radio, Helicopter, etc.*)	NAME OF APPLICANT
ABC-2	1121B	Airplane	ABC Engineering Company

LIST OF DATA

IDENTIFICATION	TITLE
ABC Manual 1234 Dated 10/20/86	Converter Regulatory Installation Manual
1000047 Revision A	Drawing - Converter Regulator Cooling Mod.
1000048 Revision C	Drawing - Scoop Assy. - Converter Regulator Cooling
	(Detail list of data - drawings, reports, etc., including revision level and dates)
	NOTE: This approval covers electrical details only

PURPOSE OF DATA
Original STC - This installation data provides additional cooling to the electrical system converter-regulator. (Project No. --------)

APPLICABLE REQUIREMENTS *(List specific sections)*
FAR 25.1301, 25.1309(a), 25.1359(d)(3)
(Identify discrete paragraph/subparagraph that "Approval" or "Recommend Approval" addresses)

CERTIFICATION - Under authority vested by direction of the Administrator and in accordance with conditions and limitations of appointment under Part 183 of the Federal Aviation Regulations, data listed above and on attached sheets numbered 1 have been examined in accordance with established procedures and found to comply with applicable requirements of the Federal Aviation Regulations.

I (We) Therefore
[ ] Recommend approval of these data
[X] Approve these data

EITHER - AS APPROPRIATE

SIGNATURE(S) OF DESIGNATED ENGINEERING REPRESENTATIVE(S)	DESIGNATION NUMBER(S)	CLASSIFICATION(S)
John Doe	SW-535	Systems and Equipment
(Signed by all applicable DER's)		

FAA Form 8110-3 (11-70) SUPERSEDES PREVIOUS EDITION (REPRESENTATION)

(Sample FAA Form 8110-3 reduced to approximately 80% actual size)

APPENDIX 3. SAMPLES, FORMS, AND LETTERS (Continued)
FIGURE 7. SAMPLE DER CANDIDATE FORM

DER CANDIDATE STATEMENT OF COMPLIANCE WITH THE FEDERAL AVIATION REGULATIONS			DATE
AIRCRAFT OR AIRCRAFT COMPONENT IDENTIFICATIONS			
MAKE	MODEL NO.	TYPE *(Airplane, Radio, Helicopter, etc.)*	NAME OF APPLICANT
IDENTIFICATION	TITLE		
PURPOSE OF DATA			
APPLICABLE REQUIREMENTS *(List specific sections)*			
I (We) Therefore ☐ Recommend approval of these data			
SIGNATURE(S) OF DESIGNATED ENGINEERING REPRESENTATIVE CANDIDATE(S)			CLASSIFICATION(S)

(Sample reduced to approximately 80% actual size)

APPENDIX 3. SAMPLES, FORMS, AND LETTERS (Continued)

FIGURE 8. SAMPLE FAA Form 8110-3, STATEMENT OF COMPLIANCE WITH THE FEDERAL AVIATION REGULATIONS, WITH DER CANDIDATE REVIEW NOTE

U.S. DEPARTMENT OF TRANSPORTATION
FEDERAL AVIATION ADMINISTRATION

STATEMENT OF COMPLIANCE WITH THE FEDERAL AVIATION REGULATIONS

DATE: 11-15-88

AIRCRAFT OR AIRCRAFT COMPONENT IDENTIFICATION

MAKE	MODEL NO.	TYPE (*Airplane, Radio, Helicopter, etc.*)	NAME OF APPLICANT
ABC-2	1121B	Airplane	ABC Engineering Company

LIST OF DATA

IDENTIFICATION	TITLE
ABC Manual 1234 Dated 10/20/86	Converter Regulatory Installation Manual
1000047 Revision A	Drawing - Converter Regulator Cooling Mod.
1000048 Revision C	Drawing - Scoop Assy. - Converter Regulator Cooling
	(Detail list of data - drawings, reports, etc., including revision level and dates)
	NOTE: This approval covers electrical details only
	THE ABOVE DATA HAS BEEN REVIEWED BY DER CANDIDATE
	NAME: _____ **DATE**_____

PURPOSE OF DATA
Original STC - This installation data provides additional cooling to the electrical system converter-regulator. (Project No. --------)

APPLICABLE REQUIREMENTS *(List specific sections)*
FAR 25.1301, 25.1309(a), 25.1359(d)(3)
(Identify discrete paragraph/subparagraph that "Approval" or "Recommend Approval" addresses)

CERTIFICATION - Under authority vested by direction of the Administrator and in accordance with conditions and limitations of appointment under Part 183 of the Federal Aviation Regulations, data listed above and on attached sheets numbered 1 have been examined in accordance with established procedures and found to comply with applicable requirements of the Federal Aviation Regulations.

I (We) Therefore
- [ ] Recommend approval of these data
- [X] Approve these data

EITHER - AS APPROPRIATE

SIGNATURE(S) OF DESIGNATED ENGINEERING REPRESENTATIVE(S)	DESIGNATION NUMBER(S)	CLASSIFICATION(S)
John Doe	SW-535	Systems and Equipment

FAA Form 8110-3 (11-70) SUPERSEDES PREVIOUS EDITION (REPRESENTATION)

(Sample FAA Form 8110-3 reduced to approximately 80% actual size)

APPENDIX 3. SAMPLES, FORMS, AND LETTERS (Continued)
FIGURE 9. RENEWAL AND EXPANSION OF DESIGNATION LETTER

U.S. Department
of Transportation

**Federal Aviation
Administration**

(Address of appointing
office goes here)

(Date)

(DER's name and
address goes here)

Dear

Renewal and Expansion of Designation as FAA (Insert Consultant or Company) Designated Engineering Representative (DER) Areas of Authorization

(DER Delegation Number goes here)

Your status and recent activities as a Designated Engineering Representative (DER) have been reviewed with respect to the provisions of 14 CFR Part 183 of the Federal Aviation Regulations and FAA Order 8110.37( ), Designated Engineering Representatives Guidance Handbook. We are pleased to advise you that your designation is renewed for a period of one year, as evidenced by this letter. The authorized regulations, delegated functions, and authorized areas in accordance with FAA Order 8110.37( ), appendix 2 are listed below and also appear on the FAA Form 8110-25, Certificate of Authority.

Designated Engineering Representative - (Insert Company or Consultant).

(Insert Delegation Type).
Example: Structural, Systems and Equipment, etc.

(Insert Authorized Regulations:)
Example: FAR 23, FAR 25, etc.)

(Insert Appointed Areas Authorized in FAA Order 8110.37( ), appendix 2:)
Example: Chart C1 Recommend Approval Only: H1

Example: Chart C2 - B1, B2, B5.

If the date identified on your last Certificate of Authority has passed pending receipt of this reappointment, your specific authority as a DER during the interim period is hereby confirmed.

If you have any questions with respect to these delegations, the initial contact should be with your FAA Advisor (Insert Advisor's name and telephone number)

Sincerely,

(Name and office of
Authorizing Official)

(Sample reduced to approximately 70% actual size)

APPENDIX 3. SAMPLES, FORMS, AND LETTERS (Continued)

FIGURE 10. SAMPLE FAA Form 8110-3, IN SUPPORT OF A MAJOR ALTERATION

U.S. DEPARTMENT OF TRANSPORTATION
FEDERAL AVIATION ADMINISTRATION

STATEMENT OF COMPLIANCE WITH THE FEDERAL AVIATION REGULATIONS

DATE: June 30, 1988

AIRCRAFT OR AIRCRAFT COMPONENT IDENTIFICATION

MAKE	MODEL NO.	TYPE (*Airplane, Radio, Helicopter, etc.*)	NAME OF APPLICANT
Bell	222	Helicopter	John Doe

LIST OF DATA

IDENTIFICATION	TITLE
Report No. SR 88-25, N.C. Dated 6-69-88	Stress Report, "Cabinet Installation, Bell Model 222 Helicopter S/N XXXXX".
Sketch Dwg. 88 Dated 6-29-88	Sketch Package, Cabinet Installation, Pages 1, 2, & 3.

Notes:

1) The structural aspects only of the above listed data are approved herein. This approval is only for the engineering design data and is not installation approval.

2) This approval is valid only for Bell Helicopter S/N XXXXX.

3) The requirements of FAR 29.853 are not included in this approval and require separate approval.

4) Aircraft interior compliance inspection is not included in this approval and requires separate ACO approval.

PURPOSE OF DATA
In support of a major alteration for S/N XXXXX. The approval is design data approval only and is not installation approval. (Project No. -------)

APPLICABLE REQUIREMENTS *(List specific sections)*

FAR 29.301; .303; .305(a),(b)(1); .307(a); .561(a),(b),(c); .601(a),(b); .603; .605; .609; .611; .613; .625; .1541(a)(2),(b); .1557(a).

CERTIFICATION - Under authority vested by direction of the Administrator and in accordance with conditions and limitations of appointment under Part 183 of the Federal Aviation Regulations, data listed above and on attached sheets numbered N/A have been examined in accordance with established procedures and found

I (~~We~~) Therefore

☐ Recommend approval of these data

☒ Approve these data

SIGNATURE(S) OF DESIGNATED ENGINEERING REPRESENTATIVE(S)	DESIGNATION NUMBER(S)	CLASSIFICATION(S)
John Doe JOHN DOE	SW-536	STRUCTURES

FAA Form 8110-3 (11-70) SUPERSEDES PREVIOUS EDITION (REPRESENTATION)

(Sample reduced to approximately 80% actual size)

APPENDIX 3. SAMPLES, FORMS, AND LETTERS (Continued)

FIGURE 11. SAMPLE FAA Form 8110-3, IN SUPPORT OF A MAJOR REPAIR

U.S. DEPARTMENT OF TRANSPORTATION
FEDERAL AVIATION ADMINISTRATION

STATEMENT OF COMPLIANCE WITH THE FEDERAL AVIATION REGULATIONS

DATE: July 11, 1988

AIRCRAFT OR AIRCRAFT COMPONENT IDENTIFICATION

MAKE	MODEL NO.	TYPE (*Airplane, Radio, Helicopter, etc.*)	NAME OF APPLICANT
Bell	206L-3	Helicopter	John Doe

LIST OF DATA

IDENTIFICATION	TITLE
Report No. SR 88-26, N.C. Dated 7-09-88	Stress Report, "Fuselage Repair, C.E.C".
Sketch Dwg. 88-9 Dated 7-05-88	Installation Sketches, Pages 1, 2, 3, & 4. Fuselage Repair.

Notes:

1) The structural aspects only of the above listed data are approved herein. This approval is only for the engineering design data and is not installation approval.

2) This approval is valid only for Bell model 206L-3, Helicopter S/N XXXXX.

3) The systems and equipment aspects are not included in this approval.

PURPOSE OF DATA
In support of a major repair for S/N XXXXX. The approval is design data approval only and is not installation approval.

APPLICABLE REQUIREMENTS *(List specific sections)*

CAR 6.200; .201; .202(a),(b); .260; .300; .301; .302; .303; .304(a),(b); .305; .306;, .307(d); .730(b),(c).

CERTIFICATION - Under authority vested by direction of the Administrator and in accordance with conditions and limitations of appointment under Part 183 of the Federal Aviation Regulations, data listed above and on attached sheets numbered N/A have been examined in accordance with established procedures and found to comply with applicable requirements of the Federal Aviation Regulations.

I (~~We~~) Therefore
- ☐ Recommend approval of these data
- ☒ Approve these data

SIGNATURE(S) OF DESIGNATED ENGINEERING REPRESENTATIVE(S)	DESIGNATION NUMBER(S)	CLASSIFICATION(S)
John Doe JOHN DOE	SW-536	STRUCTURES

FAA Form 8110-3 (11-70) SUPERSEDES PREVIOUS EDITION (REPRESENTATION)

(Sample reduced to approximately 80% actual size)

APPENDIX 3. SAMPLES, FORMS, AND LETTERS (Continued)
FIGURE 12. SAMPLE FAA Form 8110-3, IN SUPPORT OF A JAR/VLA CERTIFICATION

U.S. DEPARTMENT OF TRANSPORTATION
FEDERAL AVIATION ADMINISTRATION

STATEMENT OF COMPLIANCE WITH THE FEDERAL AVIATION REGULATIONS

DATE: May 25, 1994

AIRCRAFT OR AIRCRAFT COMPONENT IDENTIFICATION

MAKE	MODEL NO.	TYPE (*Airplane, Radio, Helicopter, etc.*)	NAME OF APPLICANT
Smithson	401	Airplane	Smith Aircraft Company

LIST OF DATA

IDENTIFICATION	TITLE
SAC 28001 Rev. C	Fuel flow test report
SAC 18013 Rev. A	Auxiliary fuel tank test report
SAC 181101 Rev. B	Auxiliary fuel system analysis
2080014 Rev. F	Drawing - Fuel System Installation
	(Detail list of data - drawings, reports, etc., including revision level and/or dates)
	*FAR 21.17(b), JAR-VLA standards dated 26 April, 1990 (Indicate governing FAR)

PURPOSE OF DATA
In support of type certification of the fuel system for the Smithson 401 Aircraft. Project No. XXXXX.

APPLICABLE REQUIREMENTS *(List specific sections)*
JAR-VLA 955(a)(1), (b), (d); 957; 963(a)*

(Identify discrete paragraph/subparagraph that "Approval" or "Recommend Approval" addresses.)

CERTIFICATION - Under authority vested by direction of the Administrator and in accordance with conditions and limitations of appointment under Part 183 of the Federal Aviation Regulations, data listed above and on attached sheets numbered_____have been examined in accordance with established procedures and found to comply with applicable requirements of the Federal Aviation Regulations.

I (We) Therefore
☐ Recommend approval of these data
☒ Approve these data

SIGNATURE(S) OF DESIGNATED ENGINEERING REPRESENTATIVE(S)		DESIGNATION NUMBER(S)	CLASSIFICATION(S)
James Bullock	James Bullock	NM-999	POWERPLANT INSTALLATIONS
Brook Norton	Brook Norton	NM-827	SYSTEMS & EQUIPMENT

FAA Form 8110-3 (11-70) SUPERSEDES PREVIOUS EDITION (REPRESENTATION)

(Sample reduced to approximately 80% actual size)

APPENDIX 3. SAMPLE FORMS AND LETTERS (Continued)
FIGURE 13. FAA FORM 8110-29, DER/FAA INTERACTION TRACKING FORM
(REDUCED SIZE)

DER/FAA INTERACTION TRACKING FORM

NAME:_____ DER #:_____
(PRINT: Prefix, Last Name, First Name, Middle Name, Suffix)

TEL. #:_____ FAX #:_____

DESIGNATION(s):_____
(Structures, Systems, Propulsion, Adm., etc.)

ACTIVITY: FROM_____ TO _____

FAA ADVISOR Name:_____
(PRINT)

ACO/BRANCH:_____

DER SIGNATURE: _____DATE:_____

PROVIDE A **BRIEF** SUMMARY OF YOUR ACTIVITIES WHICH REQUIRED INTERACTION WITH FAA PERSONNEL IN THE FOLLOWING KEY AREAS. INCLUDE PROJECT DESCRIPTIONS, PRODUCT MODELS (AIRCRAFT, ENGINES, PROPELLER, EQUIPMENT, ETC.) AND/OR FAA PROJECT NUMBERS, YOUR SPECIFIC CONTRIBUTIONS TO EACH APPLICABLE INTERACTION, AND YOUR PRIMARY INDIVIDUAL FAA ENGINEERING CONTACTS.

1. DEVELOPMENT OF CERTIFICATION PLANS/COMPLIANCE CHECKLISTS:

2. IDENTIFICATION AND RESOLUTION OF SIGNIFICANT TECHNICAL ISSUES (ISSUE PAPERS, EQUIVALENT SAFETY: *(FINDINGS, SPECIAL CONDITIONS, EXEMPTIONS, ETC.)*

3. REVIEW AND APPROVAL OF COMPLIANCE DATA:

4. INVOLVEMENT IN PROJECT MANAGEMENT/ADMINISTRATION:

5. REVIEW AND APPROVAL OF REPAIR/ALTERATION DATA INCLUDING PROCESS SPECIFICATIONS: *(ACTIVITIES IN SUPPORT OF FAA FORM 337, REPAIR STATIONS, ETC.)*

6. INVESTIGATION AND RESOLUTION OF SIGNIFICANT SERVICE DIFFICULTIES:

7. PARTICIPATION IN TECHNICAL EXCHANGES: *(MEETINGS AND TELECONS ON GENERAL TECHNICAL SUBJECTS)*

8. PARTICIPATION IN FAA TRAINING/SEMINARS:

FOR FAA USE ONLY
☐ ALL REQUIRED DER EVALUATION FORMS COMPLETED ☐ DER RENEWAL PROCESSED
ACO/BRANCH ADVISOR SIGNATURE: _____ DATE: _____

FAA Form 8110-29 (9-98) NSN: 0052-00-919-6000

SUBMITTAL OF THIS FORM IS MANDATORY FOR DER RENEWAL
FOR OFFICIAL USE ONLY
PUBLIC AVAILABILITY TO BE DETERMINED UNDER TITLE 5, UNITED STATES CODE SECTION 552

APPENDIX 3. SAMPLE FORMS AND LETTERS (Continued)
FIGURE 14. BACK SIDE OF DER/FAA INTERACTION TRACKING FORM
(REDUCED SIZE)

PERFORMANCE ELEMENT DEFINITIONS

1. DEVELOPMENT OF CERTIFICATION PLANS/COMPLIANCE CHECKLISTS:

Indicate projects where you have identified applicable regulations and methods of compliance for a design or design change. Indicate programs that required you to provide program schedules which identified critical milestones leading to FAA certification. List FAA personnel, i.e., engineers, flight test pilots, inspectors, and other FAA designees where communications took place in the course of this activity. Note: Detail project information is not required.

2. IDENTIFICATION AND RESOLUTION OF SIGNIFICANT TECHNICAL ISSUES:

For the certification projects in which you have participated, describe your work with the FAA in identifying certification related areas of new technology, areas where compliance methodology may have been new or controversial, or areas where existing regulations or policy were inadequate. Identify Issue Papers that resulted from your efforts and your contribution to the resolution of those issues.

3. REVIEW AND APPROVAL OF COMPLIANCE DATA:

Describe, in detail, your activities in reviewing and approving (or recommending for approval) compliance data. Compliance data consists of both type design data and type certification data. Type design data includes drawings, specifications, and other data which defines the product. Type certification data includes test plans, test reports, analyses, or other data used to demonstrate compliance with the applicable FARs. Note: Do not describe design details that may be considered proprietary by the applicant.

4. INVOLVEMENT IN PROJECT MANAGEMENT/ADMINISTRATION:

Describe your project management/administration activities. Describe how you insured effective coordination between the applicant and the FAA, and how you facilitated certification program activities (e.g., the submittal of compliance data, and the scheduling of conformities, testing, compliance inspections, etc.).

5. REVIEW AND APPROVAL OF REPAIR/ALTERATION DATA INCLUDING PROCESS SPECIFICATIONS:

Indicate your coordination activities with the FAA in approving repair or alteration data, especially on critical or life-limited parts. Describe when the coordination occurred, how the appropriate regulations were identified to the FAA, and the nature of supporting substantiating data.

6. INVESTIGATION AND RESOLUTION OF SIGNIFICANT SERVICE DIFFICULTIES:

Describe your DER role in identifying and/or resolving specific significant service difficulties. Be sure to identify key FAA contacts and any service information that resulted from your efforts.

7. PARTICIPATION IN TECHNICAL EXCHANGES:

Please describe important DER/FAA technical exchanges in which you have participated, such as general technical meetings with FAA specialists or management, and discussions with FAA specialists concerning technical issues related to your delegation. Note: Do not describe design details that may be considered proprietary by the applicant.

8. PARTICIPATION IN FAA TRAINING AND/OR SEMINARS:

Describe the FAA sponsored technical conferences, seminars, workshops, and presentations you have attended within this appointment period relating to your DER authorization.

APPENDIX 3. SAMPLE FORMS AND LETTERS (Continued)
FIGURE 15. FAA FORM 8110-30, DER PERFORMANCE EVALUATION FORM
(REDUCED SIZE)

DER PERFORMANCE EVALUATION FORM

NAME:_____ DER #:_____
(PRINT: Prefix, Last Name, First Name, Middle Name, Suffix)

TEL. #:_____ FAX #:_____

DESIGNATION(s):_____
(Structures, Systems, Propulsion, Adm., etc.)

☐ Yes ☐ No EXECUTIVE LEVEL: A determination has been made that the DER's title/position has not adversely affected the ability to perform delegated functions objectively and independently.

EVALUATION: FROM _____ TO _____

FAA EVALUATOR Name:_____
(PRINT)

ACO/BRANCH:_____

For the above named DER, rate performance in each of the following categories by placing an "X" under column **SAT** for Satisfactory, column **NEEDS IMPR** for Needs Improvement, column **UNSAT** for Unsatisfactory, or column **N/OB** for Not Observed. For any rating other than Satisfactory, the FAA evaluator is required to contact the DER directly, and to document in the "REMARKS" section how the concern has been or will be resolved. Resolution action may range from a recommendation for non-renewal to an indication that the DER has agreed to work closely with the FAA during the next evaluation period to resolve the concern. Indicate your recommendation for renewal at the bottom of the form above your signature.

	SAT	NEEDS IMPR	UNSAT	N/OB
1. ACTIVITY LEVEL	☐	☐	☐	☐
2. DIRECT FAA CONTACT	☐	☐	☐	☐
3. DER/FAA INTERACTION TRACKING FORM	☐	☐	☐	☐
4. APPLICATION OF REGULATIONS, POLICY, AND GUIDANCE	☐	☐	☐	☐
5. ADHERENCE TO DER PROCEDURES	☐	☐	☐	☐
6. SHOWS INTEGRITY, SOUND JUDGMENT, COOPERATIVE ATTITUDE	☐	☐	☐	☐
7. SHOWS TECHNICAL COMPETENCE IN AREA OF APPOINTMENT	☐	☐	☐	☐
8. ATTENDANCE AT REQUIRED TRAINING	☐	☐	☐	☐
9. ABILITY TO COMMUNICATE CLEARLY	☐	☐	☐	☐
10. QUALITY OF SUBMITTALS	☐	☐	☐	☐
11. TIMELY IDENTIFICATION OF SIGNIFICANT ISSUES	☐	☐	☐	☐
12. TIMELY SUBMITTAL OF DATA	☐	☐	☐	☐

REMARKS: *(Explain all **Needs Impr, Unsat, N/Ob** evaluations and provide resolution; Attach additional pages as required)*

Recommend Renewal? ☐ Yes ☐ No ☐ Change authorization as noted in Remarks

Evaluator Signature:_____ Date:_____

DER Signature:_____ Date:_____
(if required)

FAA Form 8110-30 (9-98) NSN: 0052-00-919-7000

COMPLETION OF THIS FORM IS MANDATORY FOR DER RENEWAL
FOR OFFICIAL USE ONLY
PUBLIC AVAILABILITY TO BE DETERMINED UNDER TITLE 5, UNITED STATES CODE, SECTION 552

APPENDIX 3. SAMPLE FORMS AND LETTERS (Continued)
FIGURE 16 BACK SIDE OF DER PERFORMANCE EVALUATION FORM
(REDUCED SIZE)

PERFORMANCE ELEMENT DEFINITIONS

1. ACTIVITY LEVEL: The DER is actively utilizing the delegated authority. Typical indication would be the submittal of completed FAA Form 8110-3 (8110-3s) in the delegated area. If 8110-3s are not submitted, the DER may be actively assisting the FAA in other ways such as witnessing testing or identifying and resolving certification issues, although the authority itself is not utilized.

2. DIRECT FAA CONTACT: In the delegated area, the DER has direct contact with the FAA on technical and project issues. The DER keeps the FAA informed of activities. Indicators would be office visits, phone calls, attendance at project meetings, or attendance at Designee Conferences.

3. DER/FAA INTERACTION TRACKING FORM: The DER submitted the required key interaction form. Indicator would be a complete, accurate, and timely interaction form.

4. APPLICATION OF REGULATIONS, POLICY , AND GUIDANCE: The DER properly applied airworthiness requirements and technical or administrative policy and guidance. Indicators may include a showing of understanding and proper application of regulations etc. during the course of certification projects, including meetings with the FAA, and appropriate compliance findings.

5. ADHERENCE TO DER PROCEDURES: The DER followed the DER handbook and other national or local directives in performing DER functions. Indicators would be submittal of properly completed 8110-3s, coordinating with FAA on unique and novel design features, receiving permission to witness or conduct tests, verification of conformity prior to witnessing tests, properly utilizing authority, etc. DER procedures require coordination with FAA Engineering on unique or novel designs, generation of Certification Plans, appropriate and timely requests for conformity, generation of tests plans, verification of satisfactory conformity findings prior to witnessing certification tests when delegated by the FAA and approval of compliance data in a timely and correct sequential manner. The DER should have a good understanding of when the DER may "Approve" vs. "Recommend Approval" for a compliance submittal (8110-3) and a clear understanding of the discrete areas of delegation that the DER may address.

6. SHOWS INTEGRITY, SOUND JUDGMENT AND COOPERATIVE ATTITUDE: The DER was honest, complete, and forthcoming with information in all dealings with the FAA. The DER exercised sound judgment in making technical and project decisions. Conduct was professional, and the DER fully cooperated with the FAA in resolving technical and program issues. Indicators may be direct experience with the DER, including participation in certification meetings, where the DER is forthcoming and cooperatively seeks resolution of issues.

7. SHOWS TECHNICAL COMPETENCE IN AREA OF APPOINTMENT: The DER's technical work and interaction with the FAA, particularly on complex technical issues, shows the DER's competence in the delegated area. Indicators of competence would include properly developed test plans, appropriate compliance findings, and technically accurate and complete substantiation and test reports.

8. ATTENDANCE AT REQUIRED TRAINING: The DER attended any training required by the Agency, including that which may be required by the administering ACO. Indicator would be attendance at required training, seminars, conferences, etc.

9. ABILITY TO COMMUNICATE CLEARLY: The DER communicated effectively, both orally and in writing, such that technical and administrative issues are clearly understood. Indicators would be effective oral communications during certification meetings, telephone conversations, and other direct contacts with FAA employees. Written reports, substantiation, and communications are complete and well organized.

10. QUALITY OF SUBMITTALS: The DER's data submittals are complete, logically arranged, legible, accurate, and clearly establish compliance with the applicable airworthiness requirements such that review by the FAA may be minimal. Indicators would be test plans, test reports, substantiation, drawings, etc. that meet the listed criteria.

11. TIMELY IDENTIFICATION OF SIGNIFICANT ISSUES: As early as practical in the program, the DER identified to the FAA areas of new technology, unusual design features, or those areas requiring special guidance or direct FAA involvement. Indicators would include timely informal contacts to alert the FAA to areas of concern and participation in certification meetings to identify significant technical issues for Issue Papers.

12. TIMELY SUBMITTAL OF DATA: DER submittal of compliance data was in a time frame consistent with program schedule and required FAA review. DER consistently avoids last minute "data dumps," thus allowing adequate time for FAA actions prior to critical program milestones.

APPENDIX 3. SAMPLE FORMS AND LETTERS (Continued)
FIGURE 16 BACK SIDE OF DER PERFORMANCE EVALUATION FORM
(REDUCED SIZE)

PERFORMANCE ELEMENT DEFINITIONS

1. ACTIVITY LEVEL: The DER is actively utilizing the delegated authority. Typical indication would be the submittal of completed FAA Form 8110-3 (8110-3s) in the delegated area. If 8110-3s are not submitted, the DER may be actively assisting the FAA in other ways such as witnessing testing or identifying and resolving certification issues, although the authority itself is not utilized.

2. DIRECT FAA CONTACT: In the delegated area, the DER has direct contact with the FAA on technical and project issues. The DER keeps the FAA informed of activities. Indicators would be office visits, phone calls, attendance at project meetings, or attendance at Designee Conferences.

3. DER/FAA INTERACTION TRACKING FORM: The DER submitted the required key interaction form. Indicator would be a complete, accurate, and timely interaction form.

4. APPLICATION OF REGULATIONS, POLICY , AND GUIDANCE: The DER properly applied airworthiness requirements and technical or administrative policy and guidance. Indicators may include a showing of understanding and proper application of regulations etc. during the course of certification projects, including meetings with the FAA, and appropriate compliance findings.

5. ADHERENCE TO DER PROCEDURES: The DER followed the DER handbook and other national or local directives in performing DER functions. Indicators would be submittal of properly completed 8110-3s, coordinating with FAA on unique and novel design features, receiving permission to witness or conduct tests, verification of conformity prior to witnessing tests, properly utilizing authority, etc. DER procedures require coordination with FAA Engineering on unique or novel designs, generation of Certification Plans, appropriate and timely requests for conformity, generation of tests plans, verification of satisfactory conformity findings prior to witnessing certification tests when delegated by the FAA and approval of compliance data in a timely and correct sequential manner. The DER should have a good understanding of when the DER may "Approve" vs. "Recommend Approval" for a compliance submittal (8110-3) and a clear understanding of the discrete areas of delegation that the DER may address.

6. SHOWS INTEGRITY, SOUND JUDGMENT AND COOPERATIVE ATTITUDE: The DER was honest, complete, and forthcoming with information in all dealings with the FAA. The DER exercised sound judgment in making technical and project decisions. Conduct was professional, and the DER fully cooperated with the FAA in resolving technical and program issues. Indicators may be direct experience with the DER, including participation in certification meetings, where the DER is forthcoming and cooperatively seeks resolution of issues.

7. SHOWS TECHNICAL COMPETENCE IN AREA OF APPOINTMENT: The DER's technical work and interaction with the FAA, particularly on complex technical issues, shows the DER's competence in the delegated area. Indicators of competence would include properly developed test plans, appropriate compliance findings, and technically accurate and complete substantiation and test reports.

8. ATTENDANCE AT REQUIRED TRAINING: The DER attended any training required by the Agency, including that which may be required by the administering ACO. Indicator would be attendance at required training, seminars, conferences, etc.

9. ABILITY TO COMMUNICATE CLEARLY: The DER communicated effectively, both orally and in writing, such that technical and administrative issues are clearly understood. Indicators would be effective oral communications during certification meetings, telephone conversations, and other direct contacts with FAA employees. Written reports, substantiation, and communications are complete and well organized.

10. QUALITY OF SUBMITTALS: The DER's data submittals are complete, logically arranged, legible, accurate, and clearly establish compliance with the applicable airworthiness requirements such that review by the FAA may be minimal. Indicators would be test plans, test reports, substantiation, drawings, etc. that meet the listed criteria.

11. TIMELY IDENTIFICATION OF SIGNIFICANT ISSUES: As early as practical in the program, the DER identified to the FAA areas of new technology, unusual design features, or those areas requiring special guidance or direct FAA involvement. Indicators would include timely informal contacts to alert the FAA to areas of concern and participation in certification meetings to identify significant technical issues for Issue Papers.

12. TIMELY SUBMITTAL OF DATA: DER submittal of compliance data was in a time frame consistent with program schedule and required FAA review. DER consistently avoids last minute "data dumps," thus allowing adequate time for FAA actions prior to critical program milestones.

APPENDIX 3. SAMPLES, FORMS, AND LETTERS (Continued)

FIGURE 18. SAMPLE LETTER AUTHORIZING DATA APPROVAL FOR REPAIRS AND ALTERATIONS

(DER Name)
Designated Engineering Representative
(Address)
(City), (State) (ZIP Code)

Dear (DER):

You are authorized to approve data for repairs and alterations that are within the scope of your authority as defined on your Certificate of Authority, FAA Form 8110-25, without obtaining prior Aircraft Certification Office (ACO) approval as required by FAA Order 8110.37( ), paragraph __. This authorization is for repairs and alterations that do not involve critical or life-limited parts, or if the work will be done outside the country.

This authorization will remain in effect until surrendered, suspended, revoked, or otherwise terminated. Should you have any questions, contact (ACO Advisor) at telephone number (number).

Sincerely;

(Manager)
Manager, _____ Certification Office,
Aircraft Certification Service

APPENDIX 3. SAMPLES, FORMS, AND LETTERS (Continued)

FIGURE 19. FORM AVAILABILITY

The following forms are stocked in the FAA Logistics Center and may be ordered by using the Logistics and Inventory System (LIS).

Title	FAA Form Number	NSN Number
Certificate of Designation	Form 8000-5	0052-00-055-0501
Statement of Compliance with the Federal Aviation Regulations	Form 8110-3	0052-00-046-5001
Statement of Qualifications (DAR-DMIR-DER-DPRE-DME)	Form 8110-14	0052-00-047-2003
Certificate of Authority-DER	Form 8110-25	0052-00-873-8000
DMIR/DER Mailing List Action Request	Form 1770-7	0052-00-851-8000
DER/FAA Interaction Tracking Form	Form 8110-29	0052-00-919-6000
DER Performance Evaluation Form	Form 8110-30	0052-00-919-7000

All Forms, Unit of Issue: Sheet

NOTE: Any of the above forms may be computer generated. A computer generated form must be so identical to the stock printed form that there is no confusion, mistake or uncertainty as to what the computer generated form is and how it is to be used. A computer generated form must be the same size; have the same general layout and configuration; use the same sequencing, numbering and arrangement of information and use the identical wording of the stock form. Computer generated and stock printed forms may be used interchangeably. Each ACO will determine if and to what extent it will accept and use computer generated forms.

APPENDIX 4 - ACO ADDRESSES

Anchorage Aircraft Certification Office(ACE-115N)
Federal Aviation Administration
222 W. 7th Ave.
Anchorage, AK 99513
Phone: (907) 271-2668
FAX: (907) 271-6365

Atlanta Aircraft Certification Office(ACE-115A)
Federal Aviation Administration
One Crown Center
1895 Phoenix Boulevard, Suite 450
Atlanta, GA 30349
Phone: (770) 703-6035
FAX: (770) 703-6097

Boston Aircraft Certification Office(ANE-150)
Federal Aviation Administration
12 New England Executive Park
Burlington, MA 01803
Phone: (781) 238-7150
FAX: (781) 238-7199

Brussels Aircraft Certification Division (AEU-100)
Federal Aviation Administration
15 rue de la Loe (1st floor)
B-1040
Brussels, Beligum
Phone: 9-011-32 2 508 Extension 2710
FAX: 901 (32)2 230 68 99

Chicago Aircraft Certification Office(ACE-115C)
Federal Aviation Administration
2300 East Devon Avenue
Des Plaines, IL 60018
Phone: (847) 294-7357
FAX: (847) 294-7834

Denver Aircraft Certification Office(ANM-100D)
Federal Aviation Administration
26805 E. 68th Ave., Room 214
Denver, CO 80219
Phone: (303) 342-1080
FAX: (303) 342-1088

Engine Certification Office (ANE-140)
Federal Aviation Administration
12 New England Executive Park
Burlington, MA 01803
Phone: (781) 238-7140
FAX: (781) 238-7199

APPENDIX 4 - ACO ADDRESSES (Continued)

Fort Worth Airplane Certification Office(ASW-150)
Federal Aviation Administration
2601 Meacham Blvd.
Fort Worth, TX 76193-150
Phone: (817) 222-5150
FAX: (817) 222-5960

Fort Worth Rotorcraft Certification Office(ASW-170)
Federal Aviation Administration
2601 Meacham Blvd.
Fort Worth, TX 76193-170
Phone: (817) 222-5170
FAX: (817) 222-5783

Fort Worth Special Certification Office(ASW-190)
Federal Aviation Administration
2601 Meacham Blvd.
Fort Worth, TX 76193-190
Phone: (817) 222-57855190
FAX: (817) 222-5785

Los Angeles Aircraft Certification Office(ANM-100L)
Federal Aviation Administration
3960 Paramount Blvd.
Lakewood, CA 90712
Phone (562) 627-5200
FAX: (562) 627-5210

New York Aircraft Certification Office(ANE-170)
Federal Aviation Administration
10 5th Street, 3rd Floor
Valley Stream, NY 11581
Phone: (516) 256-7500
FAX: (516) 568-2716

Seattle Aircraft Certification Office(ANM-100S)
Federal Aviation Administration
1601 Lind Avenue SW
Renton, WA 98055-4056
Phone: (425) 227-2180
FAX: (425) 227-1181

Wichita Aircraft Certification Office(ACE-115W)
Federal Aviation Administration
1801 Airport Road, Room 100
Wichita, KS 67209
Phone: (316) 946-4100
FAX: (316) 946-4407

U.S. Department
of Transportation

**Federal Aviation
Administration**

Directive Feedback Information

Please submit any written comments or recommendations for improving this directive, or suggest new items or subjects to be added to it. Also, if you find an error, please tell us about it.

Subject: Order 8110.37C

To: Directive Management Officer, AIR-520

(Please check all appropriate line items)

☐ An error (procedural or typographical) has been noted in paragraph _____ on page _____ .

☐ Recommend paragraph _____ on page _____ be changed as follows:
(attach separate sheet if necessary)

☐ In a future change to this directive, please include coverage on the following subject
(briefly describe what you want added):

☐ Other comments:

☐ I would like to discuss the above. Please contact me.

Submitted by: _____ Date: _____

FTS Telephone Number: _____ Routing Symbol: _____

FAA Form 1320–19 (8-89)(Representation)